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ABSTRACT

This book is a layman's guide to 10 of the best known school designs being implemented in the United States today. It is designed for "consumers" who must evaluate which, if any, of these models they may want to pursue. The designs examined are: (1) Accelerated Schools; (2) America's Choice; (3) the Coalition of Essential Schools; (4) Core Knowledge; (5) Direct Instruction; (6) the Edison Project; (7) Expeditionary Learning Outward Bound; (8) Multiple Intelligences; (9) the School Development Program (Comer); and (10) Success for All. The entry for each of these models contains an essay describing the model, an account of a visit to a school that has implemented the model, and a table providing basic facts about the model, including (for 8 of the 10) information about its effects on student achievement and the costs to implement. Information on effects on achievement, which is used to rate the models, was largely drawn from a study by the American Institutes of Research. These designs were chosen not because they are the best, but because they are in fairly wide use or represent a significant body of thought in the education world. (SLD)

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Better By Design?

A Consumer's Guide to Schoolwide Reform

James Traub

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James Traub

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Table of Contents

Foreword.....	v
Introduction.....	1
How to Use This Guide.....	9
Ten Schoolwide Reform Approaches at a Glance.....	12
The Ten Models	
Accelerated Schools.....	13
Sea Isle Elementary School, Memphis, Tennessee.....	15
America's Choice.....	19
Roberto Clemente Elementary School, Rochester, New York.....	21
Coalition of Essential Schools.....	25
Parkview High School, Springfield, Missouri.....	27
Core Knowledge.....	31
Morse Elementary School, Cambridge, Massachusetts.....	33
Direct Instruction.....	37
Hamstead Hill Elementary School, Baltimore, Maryland.....	39
Edison Project.....	43
Roosevelt-Edison Charter School, Colorado Springs, Colorado.....	45
Expeditionary Learning Outward Bound.....	49
Rocky Mountain School of Expeditionary Learning, Denver, Colorado....	51
Multiple Intelligences.....	55
Governor Bent Elementary School, Albuquerque, New Mexico.....	57
School Development Program.....	61
Barnaby Manor Elementary School, Prince George's County, Maryland...	63
Success for All.....	67
P.S. 159, Brooklyn, New York.....	68

Foreword

Chester E. Finn, Jr.

In recent years, a number of high-profile education reformers and organizations have developed comprehensive, replicable models of curriculum and instruction that are meant, in one fell swoop, to transform entire schools. Some of these models have familiar names: Success for All, developed by Robert Slavin of Johns Hopkins; Core Knowledge, developed by E.D. Hirsch of the University of Virginia; Henry Levin's Accelerated Schools; TheodoreSizer's Coalition of Essential Schools; and Chris Whittle's Edison Project. You can think of them as "name-brand schools," something new in the American context. Today, in fact, dozens of models and designs are out there, most of them being vigorously marketed and some of them fairly widely implemented.

This is a quintessentially American approach to things: Instead of sending the old jalopy to the mechanic, the body shop and the gas station for a complete overhaul, let's buy a new car. And let's make sure that it's fully loaded with all the features that we desire.

This approach to education reform has spread rapidly since the 1980s, when we first began to see whole school designs associated with celebrated education gurus:Sizer, James Comer, Ernest Boyer, and so on. It was given a considerable boost in the early 1990s by the founding of the New American Schools Development Corporation (now "New American Schools"), whose purpose was to identify and provide financial support for the developers of promising designs. Today, there's a \$150 million federal program ("Porter-Obey") to subsidize the adoption of these designs, and there's mounting emphasis on "schoolwide" strategies in the big federal Title I program as well. Many states and cities are promoting the idea of "whole-school reform" and proposing (or in some cases, requiring) that low-performing schools adopt designs from a specified list. What all this means is that, in the next several years, more and more parents and school districts will be shopping around for the best model for their child or district.

But how will they know which "name brand" is right for them, their school, or their district? People faced with a choice among many similar products often welcome "consumer guidance" that helps them to compare and contrast their options.

This book seeks to provide such guidance. It is a layman's guide to ten of today's best-known school designs, meant for those "consumers"—parents, teachers, school board members, philanthropists, civic leaders—who must evaluate which, if any, of these

models they may want to pursue. The designs examined here are Accelerated Schools, America's Choice, the Coalition of Essential Schools, Core Knowledge, Direct Instruction, the Edison Project, Expeditionary Learning Outward Bound, Multiple Intelligences, Success for All, and the (Comer) School Development Program.

Each entry has three parts: an essay describing what the model is like, an account of a visit to a school that has implemented the model, and a table providing basic facts about the model, including (for eight of the ten models) information as to its effects on student achievement.

Each entry begins with a thoughtful essay on the origins, assumptions, and philosophy of the model. These marvelously readable pieces were penned by James Traub, who writes for the *New York Times Magazine* and authored a fine book on the academic decline of New York's City College. If you've read any of Jim's other work on education, you know that he brings a sophisticated and discerning eye, as well as a deft prose style, to his reports on our nation's classrooms.

Following his exploration of the ideas behind the model comes a close look at what it feels like in a school that has adopted this model. These are based on visits Jim made to schools that the designers identified as good examples of the implementation of their models. (No two schools are quite alike, and no single school is a perfect representation of the entire design; but Traub did his best to find reasonably "typical" specimens.) We are delighted to publish these accounts of Jim's school visits, the first we've seen that capture what makes these reform models tick and evoke how they differ.

At the end of the entry (for most models) is a table that presents the results of a formal evaluation of its effectiveness, together with some practical information. While many of the school designs depicted here sound enticing, what most consumers really want to know is how well such an approach actually works. The evidence of a model's success in boosting pupil achievement, though often preliminary or fragmentary, was recently analyzed by the American Institutes of Research (AIR) and a summary of those findings is presented here, together with information about the cost of installing the model, the quality of the support provided by the developer to schools seeking to implement it, the number of schools actually using each model in 1999-2000, and whom to contact for more information.

The AIR report from which we draw most of this information was published in February 1999. Spanning twenty-four school designs, it was commissioned by the American Association of School Administrators, the American Federation of

Teachers, the National Association of Elementary School Principals, the National Association of Secondary School Principals, and the National Education Association. The results of AIR's evaluation were published in the *Educators' Guide to Schoolwide Reform*, a valuable resource that should serve as a model for future research and evaluation projects. The *Educators' Guide* is available on the world wide web at www.aasa.org. It can also be ordered by contacting the Educational Research Service at 703-243-2100. We are most grateful to the sponsoring organizations for allowing us to reproduce some of the key findings here. Regrettably, two of the school designs included in this report, the Edison Project and Howard Gardner's Multiple Intelligences model, were not evaluated by AIR for the *Educators' Guide*. We hope they will be included in future editions. Meanwhile, however, the *Educators' Guide* is also a valuable resource for people interested in the effectiveness of some whole school designs that are not examined in this report. (It also contains lots more information about the eight that we did include.)

The rating that AIR assigned to each model for the evidence of its effects on student achievement will doubtless be seen by many as the "bottom line." Just two of the models described in this book, Direct Instruction and Success for All, received top ratings from AIR for their evidence of positive effects on student achievement. We note that both employ rather traditional instructional methods and that both are rather costly to install. Food for thought.

While we urge consumers to take these ratings seriously, every grading system has its quirks. Though AIR is to be lauded for its pioneering effort to appraise the reform models, some parts of its analysis we might have done differently. For example, the AIR system assigns highest marks to designs that have been the subject of the most studies that use rigorous methodology and show positive results. Designs supported by fewer studies did not get equally high ratings for effectiveness even if those studies include multiple sites. Note, too, that designs showing larger effects are no more highly rated than designs that show smaller, but still positive, effects. It seems to have been the number and quality of the studies, rather than the size of the school design's effect on student learning, that AIR was seeking. Because of its emphasis on the number of studies, AIR also tended to favor designs that have been around longer. The two top-rated designs have both been in use for more years than many of the others to which they are being compared.

Our goal in bringing this information together is to assist education consumers both to choose the right school designs for them and to form some judgment of the broader concept of whole-school reform. The first section of this report consists of an introduction written by Jim Traub. He provides an overview of what whole-

school reform is, identifies its place in the universe of school reforms, and traces the history of the concept. It includes some of the author's reflections on features that distinguish one design from another and on the difficulty of translating ideas into practice.

An overview of the ratings of the ten whole-school reform models can be found on page 12. There you will find a table summarizing what is known about the effectiveness and costs of eight of them and additional information about all ten. A general explanation of the features of this report appears in the "How To Use This Guide" section following the introduction.

The Thomas B. Fordham Foundation is a private foundation that supports research, publications, and action projects in elementary/secondary education reform at the national level and in the Dayton area. Further information can be obtained from our web site (<http://www.edexcellence.net>) or by writing us at 1627 K St., NW, Suite 600, Washington, DC 20006. (We can also be e-mailed through our web site.) This report is available in full on the Foundation's web site, and hard copies can be obtained by calling 1-888-TBF-7474 (single copies are free). The Foundation is neither connected with nor sponsored by Fordham University.

*Chester E. Finn, Jr., President
Thomas B. Fordham Foundation
Washington, DC
December 1999*

Introduction

Making School a Fundamentally Different Enterprise

Perhaps the one and only conclusion accepted by all sides in the clamorous debate over school reform is that the problem lies not with any single practice or set of practices, but with "the system." School, as an institution, has failed, or at least has proved unequal to the growing demands that we place on it. We are losing faith in what we now derisively call "piecemeal reform." In her recent book, *The Right To Learn*, education scholar Linda Darling-Hammond observes that, over the last fifteen or so years, we have moved from "a first wave of reforms" that "sought to raise achievement through course and testing mandates," to a second wave "that argued for improvements in teaching and teacher education," to a third wave that "focused on defining more challenging standards for learning while restructuring schools so they can produce dramatically better outcomes." Now, she writes, "the design task is defined as transforming the education system rather than merely getting schools to do better what they have already done." School must become "a fundamentally different enterprise."

And what should that new enterprise look like? Darling-Hammond has a favorite blueprint of her own; but so do many other scholars and educators who have entirely different conceptions of what school should be.

One of the great shibboleths of school reform is that everyone knows what needs to be done; we simply lack the will to do it. This is a comforting thought, but it is completely untrue. We may have reached a rough consensus on the need for "more challenging standards" or for "improvements in

teacher education," but the reform world is riven by fundamental disagreement. There are, to take only a single example, important differences of opinion on such pedagogical issues as whether styles of learning—or even "intelligences"—vary so much from child to child that we must individualize instruction for each student, or whether it is generally better to address the class collectively. Schooling deeply implicates philosophical questions, or issues of

value, which by their nature can not be definitively resolved. What are the competencies or skills or habits we have in mind when we think of "the educated citizen"? What are we educating children for? In short, we agree on very little, save that change must be radical.

This strange state of affairs accounts for the laboratory experiment known as schoolwide, or whole-school, or comprehensive reform. Of all the "movements"

that are now criss-crossing the face of the education world, it is this one which arguably holds out the greatest hope of producing categorical change. Samuel Stringfield, an education scholar at John Hopkins University, has described research findings on comprehensive reform as "the strongest early evidence any [school reforms] have produced." The excitement produced, not so much by the evidence as by the aura of comprehensive reform, has led to an extraordinary burgeoning. A recent study titled *An Educators' Guide to Schoolwide Reform* lists no fewer than twenty-four distinct school designs; over 8,000 schools had selected one or another of these models as of the fall of 1998. We have said, in effect, let a hundred flowers bloom, and a thousand schools contend.

Over 8,000
schools have now
adopted one of
two dozen
comprehensive
reform models.

This study covers ten of these schoolwide models (of which eight appear in "An Educator's Guide"). They have been chosen not because they are the best designs, but because they are in fairly wide use, or are likely to be, or because they represent a significant body of thought in the education world. At the same time, most, though not all, are the brainchild of one individual, and thus represent an institutional incarnation of a very personal vision. Each is rooted in a certain view of child development, cognitive psychology, pedagogical techniques, effective governance, and so on. The schools that have adopted these designs are like texts in which the author realizes his intentions—though the intentions often get lost, or at least blurred, as they pass from theory to practice. This, then, is a study of both theory and practice: Each of the ten chapters consists of a discussion of the design, followed by a profile of a school that has adopted it, followed by a brief discussion of such evidence as exists that the design actually boosts student achievement, or doesn't. It offers, in effect, a field guide to the new world of schoolwide reform.

Whole-School Reform a Creation of the Last Decade

Schools by their very nature are expressions of belief, and philosophers have been devising ideal schools since the time of Plato. In the 1920s, Bertrand Russell established an ill-fated school based on his rather romanticized view of childhood, and of course John Dewey created not only a school but an entire movement based on his progressive vision of pedagogy and child development. The 1960s—the age of Herbert Kohl and Ivan Illich and John Holt—was a great era for "alternative schools" and schools-that-were-not-school. But the whole idea of a "model," a replicable design that comes equipped with assembly and operating instructions, is quite new. The oldest of the models included here, James Comer's School Development Program and Siegfried Engelmann's Direct

Instruction pedagogy, date from the late Sixties; Ted Sizer began forming the Coalition of Essential Schools in 1984. And whole-school reform, as a movement or a self-conscious species of change, is newer still. It may be dated quite precisely, to April, 1991, when President George Bush announced the creation of a private-sector body called the New American Schools Development Corporation (NAS), which was expressly intended to foster the creation of new kinds of schools. President Bush said at the time, "The architects of the New American Schools should break the mold. Build for the next century. Reinvent—literally start from scratch and reinvent the American school." The business executives who initially ran the NAS operated according to a business model: They would turn to the marketplace for alternatives to what was plainly a failed product. The corporation began by issuing a public request for proposals for new schools. The only stipulations for the new designs were that they "should aim to enable all students to achieve world-class standards in core academic subjects"; "must operate at costs comparable to current schools after start-up costs"; and "must address all aspects of a school's operation." The group received 700 proposals; in June 1992, it chose eleven, and provided enough funding for a three-year program of development and testing. Four of the designs were ultimately dropped. Since 1995, NAS has focused on "scaling up" the seven that remained to 1500 schools, and on moving the process of change upward from the individual school to the school system. NAS has also retained the RAND Corporation to study the effectiveness of the individual designs, as well as the difficulties encountered in their implementation and expansion.

New American Schools did not monopolize the business of comprehensive reform; in fact, some of the more prominent models, including the Edison Project, Direct Instruction and Core Knowledge, are not part of the enterprise. What the NAS did was, first, to increase greatly the number of models and the number of schools that adopted such mod-

els; and second, to publicize and perhaps legitimize the very idea that schools need to be, and can be, rethought and rebuilt from the ground up. Congress gave NAS, and the principle of schoolwide reform, a tremendous boost in 1998, when it appropriated \$150 million through the Comprehensive School Reform Initiative to permit about 2,500 schools to adopt a schoolwide reform from a list of eighteen approved models, including all of the NAS designs. Most or all of the schools in the districts of Memphis, San Antonio and Cincinnati have now adopted one of the seven NAS designs, and the districts themselves have collaborated with the organization to change budget and staffing policies to help promote and sustain the reform efforts at the individual schools. A number of states, including New Jersey, have recently compelled failing schools to select a comprehensive design, though it's hardly clear that one can successfully force large-scale change on reluctant teachers and administrators.

NAS, along with RAND, has created a research base, and an intellectual taxonomy, for schoolwide reform. In an NAS study, Paul T. Hill, a well-known education scholar and reformer, described what a school design is: "It is an architecture that helps guide the efforts of individual teachers so that they reinforce and complement each other and shape the work of the school as a whole to ensure that students learn what they must know. A school design is much more than a theory, although theory is often involved. It is also a practical, hands-on guide outlining what should be learned, how it should be learned, and how instruction should be delivered." Every successful organization, Hill points out, is based on some self-consistent set of principles. On the other hand, he writes, most schools lack this sense of common purpose. The vast congeries of state and local man-

dates, court orders and pressures from one group or another have made schools "holding companies for multiple programs," each aimed at different constituencies. Schools are also characterized by what Hill calls "loose coupling," which is to say that teachers are ultimately left to do pretty much what they want inside their classrooms.

New American Schools was not constructed as a bake-off, in which a winner emerges from a seven-way competition; all of the designs are supposed to hold the potential to bring students up to "world-class standards," though it is too early to say whether this is actually so. The premise of NAS, and of schoolwide reform generally, is that the very act of building from the ground up creates schools that are purposeful and focused, and prevents the familiar pattern in which schools smother

or resist whatever innovations come their way. Gradualism doesn't work; all-at-once does, or at least can. Perhaps coherence and self-consistency are themselves as important as the constituent principles of any individual design. Indeed, teachers at virtually all "restructured" schools describe a sense of rejuvenation and common purpose, and a feeling that much more is possible than they had previously thought. A study of twenty-five schools in Memphis that

had adopted one of the NAS models found that they significantly out-performed matched control schools on a wide range of academic indicators after only two years of implementation.

Profoundly Different Assumptions

There is an appealing catholicity to the notion that all of the principal whole-school reform models can produce excellent students so long as the design is conscientiously implemented, and so long as larger forces, like state legislators and district bureaucrats, do not get in the way. And this surely

A school design explains what should be learned, how it should be learned, and how instruction should be delivered.

must be true, up to a point. In conventional schools, curriculum is determined by textbooks, and standards by whatever vague guidelines have been established by state or local authorities. The mere act of consciously devising a curriculum, and then of connecting that curriculum to explicit expectations, is almost bound to bring improvement—whatever the curriculum, and whatever the expectations. Then there is the galvanizing effect that comes from starting over, at least once teachers and administrators recover from the shock of the new. Indeed, the mere fact of paying concerted attention may make a mediocre school better. And this may help explain studies like those in Memphis which show, in effect, that everything works—up to a point.

Every design incorporates a theory; and all of these theories can not be equally true. It's intriguing to contemplate the various models simultaneously, and to recognize how broad and how deep are the disagreements they reflect. For example, where should reform start? The shared assumption of most designs is that the problem lies in classroom practice, and thus "reform" essentially means changing what is taught, and how one teaches. Yet James Comer, the Yale psychologist who devised the School Development Program, has always professed himself to be essentially agnostic on such matters. Comer argues that schools must first address the "moral, social and psychological development" of children, at least of inner-city children, before turning to academic matters. School culture comes first in a Comer school; and this culture is fostered and sustained by a set of "teams" that manage the school's affairs. At the other end of the spectrum, the core premise of the Direct Instruction model is that "children learn what they are taught." Schools fail because they teach badly; the business of reform is the transformation of curriculum and pedagogy. For Comer, school reform belongs in the

Differences over pedagogy arise from bitter philosophical disagreement.

domain of child development and socialization; for Siegfried Engelmann, it belongs in the sphere of cognitive development and learning theory. In the middle fall those designs that view changes in school structure, governance, and classroom practice as equal and inextricable, including the Coalition of Essential Schools and the Edison Project.

All of the designs define themselves as the solution to some kind of academic crisis, but it is not necessarily the same crisis. Both Robert Slavin, the

guru behind the Success for All model, and Henry Levin, the founder of Accelerated Learning, are social scientists who were drawn into school design after years of studying the academic problems of impoverished, inner-city children; their reforms address the failure of such children to acquire basic skills. E. D. Hirsch, the inventor of Core Knowledge, was a professor

of English literature who was increasingly struck by the intellectual poverty even of college students, and set out to understand the roots of a kind of mass destruction of mental furniture. TheodoreSizer, who developed the Coalition of Essential Schools, undertook his own Pilgrim's Progress through the American high school, where he found a frightening vapidness even among supposedly successful schools. The most exotic design of all, in this regard, is undoubtedly the one known as Expeditionary Learning Outward Bound, which traces its origin to Kurt Hahn, a German educator who concluded in the years after World War I that his country needed an alternative to the warlike and spiritually hollow ethos by which he saw it gripped. Almost all of the designs are now said to be applicable to almost all students; and yet they were shaped by very different conceptions of the underlying problem.

As for what should go on inside the classroom, differences over matters of practice mask profound and bitter philosophical disagreement. Some of the

leading figures in schoolwide reform have been bludgeoning one another in public debate for years, and show no signs of letting up. E. D. Hirsch has forcefully argued that an "anti-fact" bias among progressive educators lies at the root of the failure of the public schools; Core Knowledge offers instead a coherent, "fact-rich" curriculum stretching from kindergarten through eighth grade. Howard Gardner, a Harvard psychologist who coined the term "multiple intelligences" and who functions as the intellectual fountainhead of "MI" schools, views Hirsch as so dangerous a figure that he describes his most recent book, *The Disciplined Mind*, as a sustained critique of Hirsch's work. Progressives such as Gardner orSizer generally take the position that one can meaningfully use factual knowledge only if one first acquires the capacity for critical thought; traditionalists like Hirsch believe that such skills are the precipitate of the knowledge of particular things, and cannot be taught directly. The progressives advocate a pedagogy of "coaching," in which the teacher prompts rather than imparts; traditionalists believe to varying degrees in direct instruction. Robert Slavin actually has it both ways: In his reading program, known as Success for All, teachers speak from a script and children respond in unison, but in his science and social studies curriculum, the children work on their own in interdisciplinary projects.

Even "standards," one of the great educational buzzwords of our day, do not have the same meaning from one model to the next. The Edison Project and the America's Choice model are organized around extremely detailed volumes of standards which cover every subject and every grade. Their standards books operate as the functional equivalent of the curriculum specified in the Core Knowledge model. On the other hand, while the idea of rigorous and specified standards is central to the format of the Coalition of Essential Schools,

it is up to each school to decide what those standards should be; making them uniform from one school to the next would violate the core premise of the model, which is that each school must have the opportunity to constitute itself as a democratic and intellectually serious community. And some models are not "standards-driven" at all; the School Development Program seems willing to be judged by whatever standards are being used in the local community.

**One study found
that the most
effective models
were the least
progressive.**

At least for now, we probably should welcome, rather than rue, this clamorous and confusing marketplace of designs. Neither educators nor parents will have to strap themselves into Procrustes's Bed: There are models for different tastes, and models for different populations. After all, we cannot yet definitively say that some designs work better than others do, or that any one design is successful with all children and in all situations. In fact, the proliferation of models offers a tremendous boon to research, since it permits virtually every important claim about educational effectiveness to be tested in something like a laboratory environment, and across a significant number of schools. The Memphis study implies that schoolwide reform confers an almost automatic benefit on schools that adopt it. That's encouraging; but one wishes to know about the relative benefits of the various models, as well as the durability of those benefits. The most comprehensive study to date, *An Educators' Guide to Schoolwide Reform*, found that only three of the twenty-four extant models showed "strong" evidence of positive effects on student achievement. All three, strikingly, are designs that focus on basic skills or a rigorous curriculum. The least effective of the models, in general, are those that offered an interdisciplinary curriculum, "higher-order thinking skills," a highly constructivist pedagogy and the like.

The Problem of Reproduction

One truism about school reform that plainly is true is that it is a lot easier to make a good school than to make a good school system. We all know from watching "Stand And Deliver" that an inspired teacher like Jaime Escalante can elicit high achievement from students whom others have given up on. Diamonds twinkle here and there in the great coalfield of the schools. A gifted principal attracts talented teachers; word gets around among the kind of parents who keep a close watch on their children's education, and within a few years you have a beacon of success. Something here must be generalizable and replicable; but what? Is it high expectations, is it the spirit of professionalism among the staff, is it freedom from outside interference? The whole idea of schoolwide reform is that one can abstract a set of principles, or "computer operating instructions," in Paul T. Hill's phrase, that will make it possible to reproduce the successful practices of good schools.

Such are the charms of the exemplary school that one can easily forget the difficulty of reproduction. And this is all the more true in the case of the "restructured" school, because there is a visionary, almost utopian quality to such a school that is the physical expression of a clear and appealing philosophy. The more inherently appealing the vision, the more powerful is the shining example. To take only a single instance, a great deal has been written about the Central Park East school, in New York City's East Harlem, which was founded by the noted reformer Deborah Meier and was an early member of the Coalition of Essential Schools. In *The Power of Their Ideas*, Meier has memorably described the school's democratic commitments, its rich sense of community, and its uncompromising intellectual ambitions. Nor is Meier a category of one: The humane and egalitarian principles that govern the Coalition model

tend to attract talented and reflective educators. But a design that depends on extraordinary leadership is bound to experience quality-control problems as it proliferates. An effective model may bring out the best in all the constituents of a school, but it must succeed with the ordinary human material of administrators, teachers, and children.

The designers are by now acutely aware of the problem of the half-finished reform, and thus of the need for extensive training and monitoring, which often makes reform quite costly to the schools themselves. The Accelerated Schools Project, for example, has thirteen satellite centers around the country which offer training sessions to teachers and administrators of schools adopting the model; a part-time coach at each school, assisted by a "facilitator" drawn from the ranks of the faculty, trains teachers in the pedagogy and governance structures

that form the heart of Accelerated Schools, and monitors performance throughout the year. Teachers and administrators in schools that choose the Expeditionary Learning Outward Bound model receive fifteen days of technical assistance per year, with much of the time devoted to learning how to devise "expeditions" that will satisfy curricular goals as well as the school's other objectives. The School

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Development Program offers a Principals' Academy at its headquarters at Yale University. The regional bodies which comprise the governance structure of the Coalition of Essential Schools offer the equivalent of accreditation for schools that wish to join the Coalition.

Despite this scaffolding, there is an inherent tension in the implementation of a comprehensive reform model. While it is possible to "install" a particular governance structure or pedagogy in a school, one cannot install a culture; it must grow on its own. Moreover, if the "operating instructions" grow too specific or leave too little leeway for innovation, schools will resist them, or find

ways to circumvent them. At the same time, if the instructions are too loose, the change will not take, and the powerful forces that tend to pull a school back to "the norm" will prevail. What this means in practice is that schools that adopt the more explicit and prescriptive models for reform, such as Direct Instruction or Success for All, or perhaps Core Knowledge, may find that they are surrendering something of their spirit of individuality and innovation, while those that adopt the more open-ended reforms, which offer a change in culture more than in specific classroom practices, such as the Coalition of Essential Schools or the School Development Program, may find themselves drifting between the old identity and the new. It is, for example, relatively easy to create committees of parents, teacher and administrators, but very hard to make them operate both effectively and democratically.

Need for Comprehensive *and* Incremental Reform

Teachers, administrators, and state education officials who enter the marketplace of comprehensive school reform will clearly have to think hard about their own philosophical leanings and those of parents, about the way they define the problems they are facing, and about the difficulties of making a new flower take root in the local soil. They will also, of course, have to consider cost. All those facilitators, coaches, training institutes and curriculum packages carry a price tag, especially at the outset. Some federal money is available through the Comprehensive School Reform Initiative (about \$50,000 a school). States and local school systems may make further funds available. Otherwise, schools have to make hard choices about their own

budgets. Some schools choose a particular design largely because it's cheap. Estimated first-year costs for the Accelerated Learning Project, for example, are \$27,000; for Success for All, \$270,000. (The numbers drop significantly in the ensuing years, and the gap between the most and least expensive tends to close.) In general, the designs that are organized around a specified curriculum or set of standards cost more than those organized around a system of governance or a vision of school culture. Their operating system is simply more detailed.

Of course, one must first be persuaded that comprehensive reform is better than incremental reform. Why not institute a more rigorous curriculum, or retrain teachers, or reduce class size, or sacrifice peripheral subjects to focus on the basics? Why not, at the state level, focus instead on such market mechanisms as charter schools or vouchers? The obvious answer is that none of these things precludes the others. All will happen simultaneously, as Americans continue to thrash about for solutions to what is plainly a very serious problem. Indeed, if we are to improve all our schools, or at least all our failing schools, then it seems likely that we will combine elements from various species of reform into large-scale, incremental change. And even that change will be highly various; our disagreements are too deep-rooted to allow us to forge a clear consensus, or to lay aside "opinion" in favor of "the facts." Nevertheless, the grand experiment of comprehensive reform will help us come as close as we can to knowing what works and what doesn't, or what works under what circumstances and with what populations. It is a very messy way of discovering the truth, but it is also a peculiarly American way.

How To Use This Guide

Each entry in this guide begins with a brief summary of main features of the model and the ideas behind it. The essay that follows each summary has two parts: a discussion of the educational assumptions and philosophy that animate the design, then a close look at a typical school employing that design. At the end of each essay is a table presenting the results of an evaluation of the model's effectiveness and other relevant facts about it. The table on page 12 summarizes the reviews of all ten approaches.

Understanding the Ratings

Evidence of Positive Effects on Student Achievement

Each design was rated on a five-point scale ranging from "strong" evidence of positive effects to "no research", the latter indicating that there are no rigorous studies by which to judge the design's effects on pupil achievement. The ratings were based on

Ratings of Evidence of Positive Effects on Student Achievement

 = **Strong evidence**

A strong rating indicates that four or more studies, using rigorous methodologies, show positive effects on student achievement, with at least three of those studies showing effects that are educationally (or statistically) significant. No more than 20 percent of studies show negative or no effects on students. To ensure enough information for replication, at least one study provides information on implementation as well as effects.

 = **Promising evidence**

A promising rating indicates that three or more studies, using rigorous methodologies, show positive effects on student achievement, with at least one such study showing effects at statistically or educationally significant levels. No more than 30 percent of studies show negative or no effects on students, and at least one study provides information on implementation.

 = **Marginal evidence**

A marginal rating indicates that at least one study, using rigorous methodology, shows positive effects on student achievement. At least 50 percent of available studies show positive effects on student achievement.

 = **Evidence of mixed, weak, or no effects**

A mixed, weak, or no effects rating indicates that at least one study, using rigorous methodology, shows negative or no effects on achievement. Evidence that is rated mixed, weak, or no effects rather than marginal may include the same number and quality of studies, but the findings are negative or ambiguous rather than positive.

? = No research

A no research rating indicates there are no methodologically rigorous studies by which to assess the design's effects on student achievement.

reviews of available studies, appraised according to such methodological considerations as sample size, duration of the study, appropriateness of comparison groups, and relevance of measurement instruments. The studies that were reviewed report student achievement on various measures. These include standardized tests, including mandated statewide assessments; assessments embedded in a specific curriculum; teacher-designed assessments; reading inventories; and the National Assessment of Educational Progress. Evidence of effects on achievement also includes students' course-taking patterns; daily attendance rates; graduation rates; within-grade retention rates; and letter grades. The final rating reflects both the amount of rigorous

research and the strength of the findings from that research.

School Support Provided by Developer

This rating reflects: (a) access to appropriate types of support (e.g., staff development, technical assistance visits, materials, Web site access); (b) frequency and duration of such support; and (c) availability of tools to help schools monitor their implementation of the approach. This four-point rating ranges from strong implementation support, in which developers provide a range of services, to weak support, in which developers only provide initial training for school staffs.

Ratings of School Support Provided by Developer

 = **Strong implementation support**

A strong rating indicates that the developer ensures that schools receive frequent on-site technical assistance; a variety of types of support; support for the full implementation period (e.g., three years); and guidance in developing the tools to manage implementation locally.

 = **Promising implementation support**

A promising rating indicates that the developer ensures that schools receive some on-site technical assistance; a variety of types of support; and support for the full implementation period. Support that is rated promising rather than strong may have less frequent on-site support, less variety in types of support, and/or no help developing tools for managing implementation locally.

 = **Marginal implementation support**

A marginal rating indicates that the developer provides a variety of support in response to schools' requests for at least one year of implementation. Support rated marginal rather than promising may be provided only in response to requests, rather than ensuring that all schools receive at least a minimum amount of support, and/or may be provided for less than three years.

 = **Weak implementation support**

A weak rating indicates that the developer does not provide any support beyond initial training.

Understanding the Context for the Ratings

The tables which appear in this guide also provide four kinds of contextual information about the designs: the cost of installing each one, the year the model was first introduced in schools, the number of schools currently using it, and the grade levels that it covers.

Installation Costs. This estimates costs associated with developers' requirements or recommendations related to: (a) additional personnel that schools must hire to meet the design's staffing requirements; (b) curriculum and other materials; and (c) staff development. The cost estimate included here is a school's first-year costs for installing the model if it must hire additional personnel to meet developers' staffing requirements. For example, some developers require schools to have a full-time facilitator or coordinator. Unless otherwise noted, costs are estimated for a school with 500 students and 25 teachers and other certified staff.

Year Introduced in Schools. Depending on the approach, it may take three years to fully implement a whole-school design and at least two additional years to evaluate it. Hence models that have been in schools for five or fewer years may have lower ratings for Evidence of Positive Effects on

Student Achievement than approaches that have operated longer, because there has not been sufficient time for accurate data to be collected.

Number of Schools. The number of U.S. schools that had implemented the designs as of fall 1999 includes only those schools that the developer reports are using the entire design; it does not include schools that only use materials or other individual components of the model. The number of schools using a design is a clue to whether it can readily be replicated in more than one setting.

How the Approaches Were Reviewed and Rated

The information in these tables (as well as the explanations appearing in this section) are reproduced from *An Educators' Guide to Schoolwide Reform*, published in February 1999. (See the Foreword for more information about this volume.) The evaluations were performed by researchers from the American Institutes of Research (AIR), which rated 24 whole school models against a common set of standards, making it possible to compare them in terms of scientifically reliable evidence. For more detailed information about how the evaluations were conducted, please see *An Educators' Guide to Schoolwide Reform*.

Ten Schoolwide Reform Approaches At A Glance	Evidence of positive effects on student achievement	School support provided by developer	Installation cost (1st year) ¹	Year introduced in schools	Number of schools	Grade levels
Accelerated Schools			\$27	'86	1,220	K-8
America's Choice	?		\$190	'98	92	K-12
Coalition of Essential Schools			NA	'84	1,200	K-12
Core Knowledge			\$56	'90	968	K-8
Direct Instruction			\$244	Late '60s	300	K-6
Edison Project	NA	NA	NA	'95	79	K-10
Expeditionary Learning Outward Bound			\$81	'92	60	K-12
Mutiple Intelligences	NA	NA	NA	NA	NA	NA
School Development Program			\$45	'68	721	K-12
Success for All			\$270	'87	1,500	PreK-6

= Strong
 = Promising
 = Marginal
 = Mixed, Weak
 ? = No Research
 NA = Not Available

¹Costs are in thousands of dollars.

Accelerated Schools



Stanford professor Henry Levin argues that the way to cure the rampant failure of inner-city children is not to slow the act of learning down, but to make it richer and more demanding. Levin calls his progressive, project-oriented pedagogy "powerful learning." Children are expected to read books on their own in class, and test their own comprehension, as soon as they've mastered phonics. Levin also believes that inner-city schools ignore the strengths of parents and the community; the Accelerated Learning model rests on "empowerment coupled with responsibility."

Speeding up Learning, not Slowing It Down

In the mid-1980s, Henry Levin, then a professor of education at Stanford University, concluded from a survey of school reform literature that virtually all programs intended for disadvantaged children offered a slowed-down version of the orthodox curriculum designed to compensate for the "learning gap" with which such students arrived at school. This approach, Levin wrote at the time, had the perverse effect of perpetuating failure. First, he said, the remedial process "reduces learning expectations on the parts of both the children and the educators who are assigned to teach them." Second, it produces a "self-fulfilling prophecy" as students "fall farther and farther behind their non-disadvantaged counterparts." Third, the heavy emphasis on repetition and basic skills "lacks intrinsic vitality" and squelches whatever joy the child brings to the classroom. Finally, conventional programs fail to draw on the strength of parents and the community. He proposed instead a process characterized by "high expectations and high status for the participants"; a

The remedial process reduces learning expectations on the parts of both children and educators.

faith that disadvantaged children will close the learning gap; a curriculum rich in "concepts, analysis, problem-solving and interesting applications"; and the engagement of parents, teachers, and the community.

Levin believed that, in order to rally a school around a new set of objectives and expectations, it would be necessary, first, to produce changes at the level of organization. Like James Comer, whose School Development Program he often cited, Levin believed that the key element of reform was to shape a new kind of school community which would, almost inevitably, foster classroom changes that would improve children's performance. Levin mapped out a process of transformation in which parents, teachers, and administrators would forge a shared vision of what their school could be, take stock of its current situation, define the foremost obstacles to change, and then set about to surmount those barriers through a systematic process of inquiry and analysis. The entire process would be guided by three core principles: "unity of purpose," which is to say that all participants would share a common vision for the school;

"empowerment coupled with responsibility," which involved shared decision-making and accountability; and "building on strengths," which entailed reaching out to the larger community. The ultimate goal was to turn the school into an autonomous, self-governing community.

Bringing in the Community

Indeed, school-based decision-making is, for Levin, the indispensable lever of reform. Since "every school and group of students has unique strengths and other characteristics," only those closest to the individual school can fashion appropriate policies for it. Moreover, Levin believes that teachers, administrators, parents, and the wider community have strengths and insights that remain untapped until they are given the opportunity to act on them. Thus the very act of taking responsibility unleashes new energies, and produces a new sense of commitment. As the school shifts toward a more democratic and participatory model, Levin writes, "staff are likely to experience an explosion of good ideas." Levin is quite explicit about the structures of governance which will allow the school to draw on all these strengths. At the uppermost level is the school community as a whole, which is "required to approve all major decisions on curriculum, instruction and resource allocation." At the next level is a "steering committee" with representatives from staff and parents, which disposes of lesser matters, such as the creation of a new course, for example. The steering committee is also responsible for monitoring the work of an array of "task and policy committees," which make recommendations on most specific issues. Levin even suggests that the agenda of each committee be publicly displayed at least twenty-four hours in advance of a meeting.

Levin's view of classroom reform was dictated by his belief that the remedial model was stifling the growth, and minimizing the strengths, of disadvantaged children. "The instructional pace," he wrote, "must be adequate to keep students attentive and learning at a rate that is productive." More

**School-based
decision-making is
the indispensable
lever of reform.**

important, learning had to be far more engaging than it typically was. A devout Deweyan, Levin wrote that "students should be active subjects in their learning rather than passive objects." The curriculum should be relevant to "the daily lives and experiences of the children." Levin suggested a "heavily language-based approach for all subjects," and a focus on analytical and problem-solving skills. He did not, however, specify either a curriculum or a set of instructional methods to ensure that disadvantaged children gain mastery of basic skills.

An Open-ended Teaching Style

Levin's vision of structural change was initially far more detailed and distinctive than his program for classroom reform, in part because he considered the one a prerequisite for the other. Over time, however, he concluded that what he called the "big wheels" of structural reform generated "little wheels" of classroom change. He coined the term "powerful learning" for the kinds of learning opportunities that he felt arose from the changes in school climate he had fostered, though it's not altogether clear why the democratic process he maps out dictates the "constructivist" pedagogy or interdisciplinary curriculum that he favors. Levin identifies five constituents of powerful learning. (He has a weakness for enumeration.) Such learning, he writes, is "authentic," as distinct from abstract or impersonal; "interactive," or experiential; "learner-centered"; "inclusive," both in regard to the whole body of students and a variety of teaching and learning methods; and "continuous," or open-ended. Another way that Levin expresses this idea is to say that powerful learning integrates curriculum, pedagogy, and context—the situation in which the student learns.

What, exactly, does this mean in practice? A publication of the Accelerated Schools Project offers the example of a fourth-grade classroom in which a child had diabetes. Provoked by the chil-

dren's curiosity about the disease, the teacher divided the class into teams, each focusing on a different system of the body. The teacher then drew on resources beyond the classroom by inviting the school nurse to bring a skeleton into the class. The children learned the names of the bones, and studied their Latin roots. The teacher then looked beyond the school itself, taking the children to the blood lab of a local hospital, where a doctor explained the workings of the circulatory system, the process whereby blood donors are screened, and the workings of diabetes. In subsequent weeks, the students learned how to take each others' pulse and calculate blood pressure, learning about ratios and fractions in the process; and extended their study of medical terminology into a project on English etymology.

In short, the Accelerated Schools Project uses the interdisciplinary, "hands-on" model favored by progressive educators generally. The only thing that is unusual about this approach is that it is being used not for middle-class students who already have a mastery of basic skills, but for disadvantaged students who often arrive at school without those skills.

As a general rule, the "crisis-intervention" models devised to address the ills of inner-city schools focus relentlessly on skills, and offer specific techniques to ensure competency. Levin, however, associated this skill-orientation with the failed remedial model and, beyond that, with a mechanistic, devitalized system of schooling. The Accelerated Schools Project, which now reaches into over a thousand schools, is thus founded on the proposition, by no means self-evident, that the progressive ideal of the democratic schoolhouse and the open-ended classroom can succeed in raising the performance of the most disadvantaged students.

Sea Isle Elementary School, Memphis, Tennessee

When Sea Isle was selected as one of the thirty-four elementary schools in Memphis that would

adopt one of the new models of schoolwide reform, the school's leaders had eight designs to choose from. Rita Porter, Sea Isle's principal, says that they chose the Accelerated Schools Project because "it was close to what we had been doing so far as having a democratic point of view." Accelerated Schools also happens to be relatively inexpensive. While other schools had Title I money to draw on, Sea Isle, where only 44 percent of the students are poor enough to qualify for this federal program, did not. Moreover, the idea of "powerful learning" appealed to the staff. Powerful learning, Porter says, means "hands-on activities where you can use higher-order thinking skills," as well as "developmentally appropriate practices" in the earlier grades.

"Powerful learning" is a sufficiently broad, and sufficiently familiar, concept that teachers did not find it threatening; Chris Sullivan, a teacher who has received training in both pedagogy and governance issues from the Accelerated Schools Project, and now serves as Sea Isle's resident "coach," says that teachers have made a "smooth

transition" to the new model, since they need not learn either a new curriculum or a specific approach to teaching skills. At the same time, the teachers are acutely aware that whatever they were doing before does not, in retrospect, look very powerful. "Maybe we would give them a story, and they would underline certain words," says Gail Watson, a second-grade teacher. "Now we're getting children to write their own stories. We'll give a sentence starter, and ask them to complete it. We'll go through questions like, 'Is this a paragraph? Does it have a main idea?'" When I visited in May, 1999, three students in Watson's class were designing a book jacket for their favorite book. Everyone was making a booklet with the Tennessee state bird, flower, tree, and flag; the students would choose the best. Catherine Branan, a first-grade teacher, said, "At first, I was opposed to the whole thing; I thought it was expecting too much." Branan was

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you can use
higher-order
thinking skills.**

accustomed to asking her children to do "round-robin reading" from a basal text. Now, she says, the children in her class read independently for at least an hour a day. "My biggest problem is that I have to get them to put down their books when I start talking." By the end of first grade, she says, students are typically reading third-grade books.

At the base of the school's reading program, interestingly enough, is a rather traditional program called "Sing, Spell, Read and Write," in which the children learn phonics with a bit of sugar-coating. In Lisa Taylor's kindergarten class, the children sat in a semicircle around a big display of the alphabet and chanted, "A, A, A, A, apple! . . . B, B, B, B, ball! . . ." They sang a little ditty: "When we learn the sounds, you'll see, ready to read then we will be." Taylor handed out cards with the short vowel sounds, and they sang out those. Then they moved across the room to a cardboard ferris wheel, where the students matched consonant cards to vowel sounds on the wheel.

Phasing out Phonics

The phonics program is designed to phase out in the middle of first grade, when it gives way to what is called the Accelerated Reader Reading Renaissance program, which runs through third grade. In Elizabeth Calcutt's second-grade class, the children were sitting at their desks reading to themselves; a few were over at the computer. The books were marked according to grade level—2.0, 2.5, and so on. Children were reading the Magic School Bus books, the Matt Christopher sports books, and the more childish Berenstain Bears. When a child finished a book, he or she would go to the computer to take a comprehension test; you had to get nine out of ten questions right to pass. The computer kept a running tally of the child's cumulative score, which was also based on the length of the book he chose. Alicia said she had read eighty-six books, but had passed the test on

only seventy-five. She had compiled 54 points, which, at this point close to the end of the year, was far short of the goal of 95 points which Calcutt had set for her at the beginning of the year. Children who reach the goal are given chits with which they can go shopping at the school store; a lucky few had been taken to lunch at a fancy downtown hotel. "It's highly motivating for them," said Catherine Branen. "It's not what they can spend; it's, 'I want to get to 100 points.'"

Beyond the reading program, powerful learning is pretty much up to the individual teacher.

More Than One Answer

Beyond the reading program, powerful learning is pretty much up to the individual teacher. Some classrooms are manifestly more powerful than others. In the gifted-and-talented class, says Rita Porter, "It's powerful all day long." There is, in any case, less evidence of ambitious interdisciplinary projects than of classic constructivism. Cindy Cole was teaching her third-graders about fractions through the use of tanagrams, colored plastic geometric forms which could be fitted together to create yet other forms. "It's a hands-on activity that helps them process the idea," she said. "I might say, 'I want you to create a shape, and two-fifths of it needs to be green.'" The kids sat in groups, trying to puzzle out different ways of assembling a given shape. They used the tanagrams to talk about the idea of scale. "Why does one design only need four triangles, and the other needs six?" Cole asked. Later, in English class, she handed out copies of the *Memphis Commercial Appeal*, and asked the children to find the weather, the date and the price of the newspaper, and to scan the news highlights section to find a name or a fact. She was teaching them how to navigate a newspaper.

Sea Isle has adopted Levin's suggested governing structures, though school staff believe that they were a collegial and democratic institution beforehand. Major decisions are made at open meetings of the whole school, and arrived at consensually. The steering committee, which consists of parents, coaches, teachers and non-teaching staff, meets

once a month. And the school has five "cadres," or committees, which focus on safety, school climate, parental involvement, data and assessment, and standards integration; each meets weekly. The school-climate cadre met in the school's conference room during a morning period; the student representative, Brandon, a fifth-grader, had been excused from class. Brandon had agreed to work with other students to make posters with encouraging slogans for the school's new trash baskets. A parent asked, "How can we help you so that we can take care of

that?" The group talked about repair work that needed to be done over the summer, and batted around the possibility of submitting "before" and "after" pictures of the school for Memphis's City Beautiful campaign. The parents were obviously proud of their role in directing the affairs of the school, be it ever so modest. Indeed, the painstakingly courteous and democratic process seemed virtually to be an end in itself.

Effectiveness and Cost

Evidence of positive effects on student achievement:

Marginal: At least 1 study uses a rigorous methodology and shows positive effects.

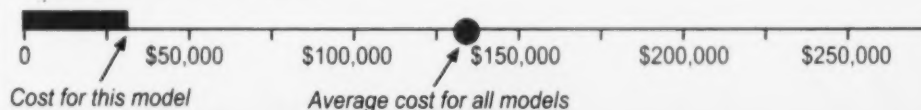


School support provided by developer:

Promising: Schools receive some on-site technical assistance and a variety of types of support.



Installation cost (1st year)



Current Status

Year introduced in schools	1986
Number of schools (1999-2000)	1,220
Grade levels	K-8

For more information about Accelerated Schools, contact:

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America's Choice



The standards that govern American schools are too low, and too vague. And so the first job of reform is the establishment of detailed, rigorous standards in all subjects, and at all grades. Even very young children are expected to judge their own work, and their classmate's work, according to "rubrics" which they themselves write. The organizations that formed America's Choice have also devised "reference examinations" at fourth, eighth, and tenth grades to ensure that children reach those standards.

A Challenging Curriculum Made from "World-Class" Standards

The America's Choice school represents a consensus product of several prominent mainstream forces of education reform; its moving force is not an individual but a coalition. In 1989, a think tank called the National Center on Education and the Economy spawned something called the National Alliance for Restructuring Education. The Alliance consisted of four school districts, six states, several large corporations and a number of policy groups, such as the Commission on the Skills of the American Workforce. The goal of the Alliance was to foster change at the district and state levels, principally by devising and propagating new standards and assessment tools and by infusing techniques of corporate management into schools and school systems. The America's Choice school design was an almost inadvertent by-product of this movement for integrated change.

At the core of the Alliance's blueprint for change is the idea of the standard. The proposition that American schools need detailed, rather than simply hortatory, academic standards has now

become probably the single most widely shared article of faith in the world of school reform. There is, however, violent disagreement not only as to what those standards ought to be, but also as to whether they should be established by the individual school, by the state, or by some national body. In *Standards For Our Schools*, Marc Tucker and Judy Codding, two of the leaders of the Alliance, write that the average school holds such low expectations for students, especially disadvantaged stu-

dents, and is so preoccupied with non-academic concerns, like the sports program, that it is naïve to expect rigorous standards to arise from schools themselves. And so the Alliance created yet another endeavor, the New Standards Project, to develop "performance standards" in "English Language Arts," Math, Science, and a project-oriented curriculum it calls "Applied Learning."

One of the distinguishing features of

these volumes is that they contain extensive examples of actual student work and accompanying commentary, so that the teacher knows not only the appropriate expectation for, say, third-grade writing, but what kind of work does or doesn't meet that expectation. This is a long way from the hazy standards that still obtain in most states.

It's naïve to expect rigorous standards to arise from individual schools.

New Tests for New Standards

Meaningful and coherent standards are necessary but not sufficient to produce lasting change. For one thing, standards require assessments. The New Standards Project has developed "reference examinations" in the specified subjects at fourth, eighth, and tenth grades; most involve a combination of multiple-choice and open-ended questions. New Standards has also devised a grading system for portfolios, separating out performance into such areas as "conceptual understanding" and "problem solving." The whole assessment system is designed to produce objective and uniform standards of judgment for complex, high-quality intellectual performances.

A standard does not, by itself, dictate either what one teaches or how one teaches. In *Standards For Our Schools*, Tucker and Coddling assert that a prescribed curriculum gives teachers too little latitude, and tends to produce "inert knowledge" rather than understanding; instead, they propose that teachers work backwards from the specified benchmark, and collectively develop lesson plans designed to reach the goals. They advocate what they call "a thinking curriculum—one that provides a deep understanding of the subject and the ability to apply that understanding to the complex, real-world problems that the student will face as an adult." What this means in practice is that students must be explicitly taught the underlying concepts of a given body of facts—through, for example, "concept books" to accompany texts—and that students will not gain abstract understanding in subjects such as math unless they are connected to real-world experience. They tout the model of "apprenticeship," and argue that students learn best when teaching one another. At the same time, they warn that, while an "integrated" curriculum is often entertaining, "too often the learning that students actually do in such situations is very shallow." They advocate a curriculum largely divided according to traditional disciplines.

**Teachers
develop lesson
plans by working
backwards from
specified
benchmarks.**

The pedagogical principles are fairly familiar; what is unique about the America's Choice design is the idea that clear standards give both school and student their sense of purpose. In *Standards For Our Schools*, Tucker and Coddling argue that many

American students do not learn because they have no real incentive to do so. The schools promote and graduate them and send them on to college without demanding any academic achievement in return, and the standards required by the world of work are invisible until the student has already finished school. Other nations, they point out, are quite explicit about the connection between academic standards and a

productive workforce. In both Germany and Japan, students are acutely aware of the courses they need to take and the grades they need to achieve in order to get a desirable blue-collar job. Toyota expects its workers to have studied physics and chemistry, and to be prepared to do college-level work in engineering. And so students have an overwhelming incentive to study. In the United States, they write, "Only those students who plan to go to a selective college—a very small percentage of all students—have any incentive to take tough courses and study hard for the rest of their high school career."

The European Model

Tucker and Coddling propose that we abolish the high-school diploma in favor of a Certificate of Initial Mastery, to be awarded to a student—of whatever age—who attains a "high, internationally benchmarked standard." They point out that such an innovation would have the additional benefit of recognizing that all students, not just the gifted few, can become academically proficient. It would also send a crucial signal to an employer that a student has gained the skills he needs to work effectively; once the high-school diploma carries real weight, the labor markets could stop requiring a watered-down college education. They propose to abolish the comprehensive high school in favor of the

model used in much of Europe, in which all students pursue an academic track until about the age of sixteen. After completing their Certificate of Initial Mastery, students planning to attend a selective college would spend another few years in intensive preparation, while others would pursue a professional or technical program beyond the confines of high school. Thus the "Performance Standards" published by the New Standards Project terminate in tenth grade; a student who satisfied the standards would receive the Certificate of Initial Mastery. America's Choice has begun to institute this system in a few of the high schools where it now operates.

The initial premise of the Alliance was that reform must move far beyond the classroom in order to stick. "Our purpose is not only to create 'break-the-mold' schools," the Alliance wrote rather grandiosely in its proposal to New American Schools, "but to build whole new systems of education from the state level on down that will promote and sustain the development of the new schools the nation needs." The idea was that entire school districts would adopt the design, and the Alliance would bring corporate efficiency and focus to the system through "total quality management," coordinate the provision of health and human services to the schools, and so on. The Alliance was meant to be a juggernaut of reform: The authors of the design proposal expected America's Choice schools to number "in the thousands" by now. In fact, the figure is about 90, and few of them have yet fully implemented the design. Perhaps it's inevitable that a design that proposes to change absolutely everything should have more trouble making headway than one that simply guarantees literacy.

Roberto Clemente Elementary School, Rochester, New York

The Roberto Clemente School, in Rochester, New York, is about as low on the socioeconomic

totem pole as you can get. The school's population is 50 percent black, 45 percent Hispanic and almost 100 percent poor; a few blocks beyond the school yard is Rochester's principal open-air drug market. Sixty percent of the children entering kindergarten score two or more years below their age level on tests of verbal ability. Several years ago, the school, like others in the district, was instructed to choose one of the designs being sponsored by New American Schools. Jane Scura, the principal, says that the staff chose America's Choice because it required less drastic change than the alternatives. "We were already doing a lot of the right things,"

she says; "we needed to pull it together."

America's Choice offered high standards and expectations without rigid prescriptions, and it would be installed gradually, starting with a "Writing Workshop" and then moving on to reading, math, and "applied learning." The school might have chosen a more radical remedy if it had felt less confident—justly or not—about its direction.

Nancy Herrera, the school's Literacy Coordinator, was training teachers one by one in the Writing Workshop method. One second-grade class had begun earlier in the year, and the other had been at it for only three weeks; the rest of the students would not fully take up Writing Workshop until the following year. The neophyte second-graders had written a story the day before, and now they were working on a second draft. The stories all used the simplest possible grammatical structures: "I like my Mom a lot. She is the best Mom," and "I love my family and my family loves me. I love sports. I like basketball. I like snakes. Some snakes do not bite." The re-writing was limited to correcting spelling mistakes. In the front of the room was an "Author's Chair," where students would sit to read their stories to the class. A critical vocabulary was printed on an easel which stood next to the chair: "I like the part," "I'm confused about," and "Tell me more about." A big, shy boy, Ricky, sat in the author's chair and read his story: "I love basketball to play. . ." Ricky whispered, and he could

**Children help
write rubrics
and consult
them while
working.**

barely decipher his own words. Herrera asked the kids to comment, using the phrases on the easel. "I like the part where you said people sometimes get mad when they lose," one girl said in a tiny voice. Ricky was supposed to incorporate the critical response in his re-writing. He stepped down, and everyone clapped.

The children in Theron Mong's class had been doing Writing Workshop for five or six months. Their stories were much longer, and showed a nascent awareness of form. Victor headlined his story, "Dinosaur Times!" "Scientists experience dinosaurs by finding fossils," he wrote. The boy in the Author's Chair read, "An octopus have arms and it have suckers and they eat crabs and octopus can change color and octopus live in water. . ." Mong invited comments.

"He kept saying 'and'."

"What else could he have done?"

"He could put 'also'."

"He could put different words."

"We could put a period on some of the sentences."

Writing as a Conscious Act

Mong had a student bring over the "rubrics" for report writing. Rubrics represent levels of achievement, and they are ubiquitous at an America's Choice school. There are rubrics for writing a report, and for writing a story, and for Working Hard, which run from "No respect for others" to "be respectful and help others." The children themselves decide on the rubrics, or at least should feel that they have done so. The children say that they often look up at the rubrics while writing, trying to figure out whether their work meets the standard for acceptability. Indeed, much of the Writing Workshop process is designed to make students aware of writing as a conscious act, and of the levels they could attain by virtue of conscious effort. The children knew the rubrics, and the rules—only write on one side of the paper, use your "try sheet"

to come up with corrected spellings—and the difference between "Work in Progress" and "Meets Standards."

The school had begun to use the idea of a standards-based writing process in other grades. The kindergarten teacher, Pat Mangin, read the children a story, and then asked, "Tell me what happened with the table in the story." The children were too young to write a narrative, but they could tell a narrative. Mangin's standards were "stay on topic,"

"only include what is pertinent," and the like. Older children were expected to write far more than they had, to vary the cadence of their sentences, to think about the reader. Krishanda, a fourth-grader, said, "I used to write, 'The dog ran.' Now I know you can say, 'The dog ran quickly.' You can say 'where', like, 'The dog ran down the street.' If you don't use adverbs and adjectives, it won't sound interesting; the reader

might get bored." Krishanda and other children—at least the girls—said that they wrote in their journals all the time. Teachers observed that, on the day after snow days, many of the children came in with stories about the blizzard that they had written while they sat at home.

Raising Teachers' Expectations

Indeed, standards, and "standards talk," have at least as galvanizing an effect on teachers as they do on children. "I don't think the teachers ever had a focus on what they were asking the kids to do," said Herrera. "This has made it clear to the teachers what their task is." Evie Dingwall, a third-grade teacher, said, "My major hang-up has always been the mechanics of writing. Is the punctuation right? Is the spelling right—instead of looking at it holistically. As an old-time teacher, I'm amazed to find the kids are really writing." Many of the teachers had concluded from long experience that you just couldn't expect inner-city children to write more than a sentence or two—which of course is precisely why Tucker and Coddington argue that standards

Even kindergarten children are expected to recall a story's narrative.

must come from above.

The "primary literacy standards" sketched out by the New Standards Project are, in fact, extremely detailed and ambitious. Among the "habits and processes" expected of second-graders, one finds, "Extend pieces of writing by, for example, turning a narrative into a poem or a short description into a long report;" among the expectations for vocabulary is, "Make word choices that reveal they have a large enough vocabulary to exercise options in

word choice." It's true that few if any of the students in Mong's class reached those standards, at least according to the examples of student work, and the commentary on them, that were included in the text. It will take more than rigorous standards to wipe out the immense disadvantage which many of these children brought with them to school. On the other hand, you have to start somewhere, and rigorous standards seem like a pretty plausible place to start.

Effectiveness and Cost

Evidence of positive effects on student achievement:

No Research: No studies use a rigorous methodology.

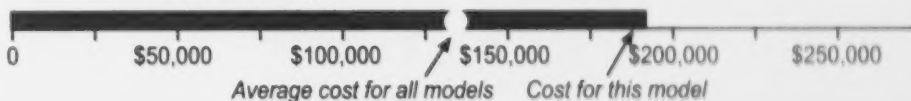
?

School support provided by developer:

Strong: Schools receive frequent on-site technical assistance and a variety of types of support for the full implementation period.

●

Installation cost (1st year)



Current Status

Year introduced in schools	1998
Number of schools (1999-2000)	92
Grade levels	K-12

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Coalition of Essential Schools



After a personal journey through American high schools, TheodoreSizer found that most were governed by docility and low expectations. "High schools must respect adolescents more and patronize them less," he wrote. Teachers in Coalition schools are expected to act as coaches, while students engage in long-term projects aimed at "mastery," rather than mere factual grasp. Students show competence not through tests but through "exhibitions" involving speeches, papers, experiments and the like.

A New Kind of Community Focused on Intellectual Mastery

The Coalition of Essential Schools is the institutional expression of the work of TheodoreSizer, the former dean of the Harvard Graduate School of Education and probably the leading progressive thinker and reformer of our time. In 1973, Sizer wrote a tract called *Places For Learning, Places For Joy*, in which he called for schools to lift the dead hand of conservatism, and to afford children not only intellectual power but "self-realizing joy." It was very much a document of its times: Sizer approvingly cited Charles Reich's ecstatic *Greening of America*. When Sizer returned to the literature of school reform in 1984 with *Horace's Compromise*, he still found the schools soul-deadening, but he also worried that the apostles of liberation were asking too little of students. "A good school should be a place of unanxious expectation," he wrote. "Although some expectations certainly are angst-producing, a good school's standards are challenging, not threatening, energy-producing rather than defense-producing." The liberal reforms of the

Sixties had been driven by politics and morality; Sizer wished to forge a progressivism that was about effective schooling.

Horace's Compromise offers an eye-opening, and demoralizing, journey through the American high school of the early 1980s. Many of the schools Sizer visited were neat, orderly, pleasant—and vapid. They were governed, he wrote, by "the Conspiracy: I'll not hassle you, Mr. Teacher, if you don't push me, the student."

Teachers droned on and students dutifully took notes, responding to the occasional question with the expected one-word answer. In perhaps the best-known passage of this widely-read book, Sizer wrote, "High schools must respect adolescents more and patronize them less. The best respect is high expectations for them, and a level of accountability more adult in its demands than childlike. We should

expect them to learn more while being taught less. Their personal engagement with their own learning is crucial; adults can not 'give' them an education. Too much giving breeds docility, and the docility of students' minds is a widespread reality in American high schools."

Reform thus meant changing the terms of the

In the "less is more" curriculum, students gain a deep understanding of a small range of topics.

relationship among student, teacher, and subject matter.Sizer proposed, first, to abandon the model of teaching-as-imparting in favor of teaching-as-coaching. In a good classroom, the teacher would circulate among students constantly as they tried to figure things out for and among themselves. Students would work on projects that required their own initiative, rather than responding to prompts from the teacher. They would work in teams as much as singly.

Teaching would be a matter more of encouraging and prodding than of telling. And it would be individualized. In *Horace's School*, the second volume in his Horace trilogy, Sizer wrote, "There is among individuals a variety of learning styles, a variety of sources of abstract reasoning and sensing powers . . .

Trying to force a child to learn in a way that does not suit that child is like trying to run a Ford Escort on kerosene."

A Curriculum Divided into Broad Themes

Sizer argued that the high-school curriculum was just as responsible as the pedagogy for students' boredom and disengagement. The conventional curriculum, he wrote, expected children to learn a smattering of facts in a vast array of disciplines. Students were being asked to memorize, but not to think; they were not being challenged. "The residue of serious learning is a mixture of awareness and logic," he wrote in *Horace's School*. "One exercises these qualities of mind with specifics, but the qualities themselves are the ends to be pursued, rather than the memorization of data." Sizer proposed instead a curriculum of "less is more," in which students would be expected to gain a deep understanding and mastery of a small range of topics. He suggests a curriculum divided into broad, thematic elements—"Literature and the Arts," "Mathematics and Science"—and a form of study which emphasizes the interconnections among disciplines.

As the curriculum, so the tests: Sizer argues that

multiple-choice tests, and, for that matter, paper-and-pencil tests generally, allow students to demonstrate only the more superficial forms of understanding. Instead, students should pass from one stage of schooling to another only after an "exhibition" of mastery in the various domains. The exhibition is designed to prove that the student can apply her abstract understandings to unfamiliar

problems, and thus serves as an affirmation of her ability to use her knowledge. In one of the examples Sizer provides in *Horace's School*, each of five students is given the complete financial records of a hypothetical family and instructed to fill out an IRS Form 1040; each student must defend his return to a student-auditor, and audit the return of another

student. "Taught intelligently," Sizer writes, the exhibition "opens the door wide. . . to a cluster of important disciplines such as microeconomics, politics, ethics and political history."

**Students pass
from one level to
another only after
a demonstration
of mastery.**

A Schedule That Permits Depth

In the Essential School, time is reorganized in order to suit the needs of intellectual mastery. Thus, the day is divided into three or four "blocks" of as much as two hours, in order to allow students to explore a topic in depth. Nor do students progress from one grade to another with their age cohort. In conventional schools, Sizer writes, students know that in order to gain a diploma all they really need do is "serve time." On the other hand, he observes, "If a school awarded the diploma whenever a student reached the agreed-on level of mastery at the completion of a student's study rather than after four years of attendance and the collection of credits, the effect on student behavior would be dramatic." The school would thus be stating explicitly that it cares about intellectual maturity more than about mere rule-following. And so the Essential School is divided into several broad levels, and students pass from one to the next whenever they demonstrate mastery with their exhibitions.

The Essential School is distinguished as much by culture as by instruction. In the typical school, and especially the typical high school,Sizer writes, students are anonymous and almost interchangeable; the school culture is thin. Sizer proposes to thicken the culture, and strengthen the bonds between children and adults, by breaking up the institution into smaller "houses" in which teachers have direct responsibility for, and regular contact with, a group of students. Sizer was at one time the headmaster of Phillips Academy, Andover, and his vision of school as a community knit together by mutual respect, a sense of decency and shared intellectual values may owe a good deal to the model of the New England prep school. The culture of the Essential School requires a deep sense of professionalism among teachers, who are entrusted with the responsibility to construct the curriculum and the exhibitions, and who are given additional time to work with one another. The principal is to serve above all as "an instructional leader," rather than chief bureaucrat.

Change Without a Blueprint

It is not easy to make an Essential School. Like most progressive reformers, Sizer does not believe in prescriptiveness. He believes that each school must devise its own curriculum, exhibitions, standards, and, of course, culture; indeed, the freedom and responsibility entailed in creating your own solutions lie at the heart of that culture. Sizer is thus seeking a profound transformation, but without a program or blueprint. Sizer concedes that many Essential Schools have been essential in name only; others have regressed after an inspirational principal or cadre of teachers has left. While about a thousand schools have joined the Coalition, a much smaller number have been designated "essential schools." Moreover, while some of the changes Sizer has advocated, including the use of exhibitions and "portfolios," have become common cur-

rency in the schools, others have provoked resistance. An intensive study of four Essential Schools in Illinois concluded that, "When essential school philosophy, as it found expression in the schools' change efforts, clashed with pragmatic concerns, inevitably, the pragmatic won out."

One way to distinguish among school designs is in their relative difficulty of implementation. At one end of this spectrum lie the programmatic and even behaviorist models, which stipulate a pedagogy, a curriculum, or a school structure, from which one may predict an outcome; at the other lie those models that hold out a profoundly desirable end-state, and offer means by which dedicated educators might be able to attain it. The more ambitious and appealing vision turns out, not surprisingly, to be much the harder one to realize.

**Ninth-graders
scripted their own
version of *Romeo
and Juliet*, and
designed playbills
and tickets.**

Parkview High School, Springfield, Missouri

Both elementary and middle schools have joined the Coalition in recent years; but, unlike most schoolwide reform models, the Coalition was designed with high-school students in mind, and high schools still predominate among its members. This means that the Coalition school must instill unfamiliar intellectual habits and school routines in fourteen-year-olds—no easy undertaking. And so Parkview High School, a Coalition school in Springfield, Missouri, puts special emphasis on its freshmen, who are divided into teams—Sizer would call them "houses"—of 100, each with four "core teachers" and one lead teacher. The teachers plan the curriculum together, and the students learn to work in groups. In addition to more-or-less conventional subjects, the students engage in a multidisciplinary project that centers on the St. Louis World's Fair of 1904. Each group devises a series of "research responsibilities" which require in-depth study of one exhibition from the fair, one aspect of the historical period, an

element of "environmental science," such as the flora and fauna of one exhibiting country, and so on.

Students visit the fairgrounds, and ultimately prepare papers, an oral presentation and a scale model, whose construction requires a certain amount of math. The whole project is almost as much an exercise in intellectual depth and initiative as it is in the individual subjects.

Many of the class assignments take the form of projects. In Linda De Busk's ninth-grade English class, the students studied *Romeo and Juliet*, and then split up into groups to re-write one scene from the play in their own language, with appropriate costumes, scenery, and music. They were also expected to write ad copy, and design a playbill, tickets, and a logo for the production. Then they staged their scene using friends, family and pets, and taped it. There was "Romeo and Juliet in Nam," and "Romeo and Juliet in Los Angeles," and a version in which Romeo and Juliet are bulldogs, and Juliet's nurse, a pig. Some, though scarcely all, of the students took seriously the idea of re-casting Shakespeare's language. In the animal version, Romeo gazes soulfully upstairs at Juliet—this is the balcony scene—and says, in voice-over, "See how she lays her snout upon her paws; if only I could be that fur." Springfield is located in the Ozarks, and the premise of another production was that the Montagues and Capulets were feuding clans from the world of "Snuffy Smith." "Sweet mother o' God, the Capulets are comin'!" cries one of the Montagues, just before the climactic boxing match which settles Mercutio's hash.

Contending with Obstacles

Parkview is more Essential in some respects than others. Ginny Ray, a math teacher and the coordinator of the Coalition programs, says, "We decided to focus first on student achievement." As

for the school culture that is so important to Sizer, "We don't do that part," she says. The Essential School is supposed to be an intimate place, whose physical setting and small scale encourages constant, unplanned interaction among students and teachers. Parkview, however, is a sprawling, H-shaped structure with endless corridors and nary a nook or a hideaway. Classes are far too large for teachers to have the kind of mentoring relationship

with students that Sizer envisions.

Quinton Smith points out that, with thirty-three students in his English Honors class, public "exhibitions" are impossibly time-consuming. "Instead," he says, "they do exhibitions, but don't present them." It is also true that the idea of an "Honors" class violates Sizer's prohibition against tracking.

Parkview has Honors classes in all subjects, and is divided into four

grades, from which students are promoted in a more or less traditional manner. Some combination of physical limits and the pull of convention has retarded Parkview's evolution as an Essential school.

Parkview does make a number of efforts to forge a sense of community despite these limitations. Students spend one "block" every other day in "V.I.P.," which stands for "Vikings in Progress." (The Viking is the school symbol.) Freshmen are assigned to V.I.P. with one of their core teachers, and remain with that teacher for four years. Students use the period to do make-up tests or missed assignments, to receive peer tutoring, or to work on the yearbook or other non-academic activities. Parkview tries to keep the V.I.P. classes small enough that students can develop a rapport with their teacher, and with one another. At the same time, since students often leave the room for other activities, V.I.P. requires a rather elaborate system of passes and hallway monitoring that is not quite consistent with the Essential spirit. The V.I.P. period also begins with a series of announcements via the public address system—"A Grand Am is going to be given away to some lucky Parkview senior..."

It was not easy to find signs of the kind of intellectual transformation Sizer describes.

—as well as Channel One, the package of television news and commercials designed for schools.

Parkview must also work around state and local requirements. The World History curriculum, for example, is largely dictated by the district's "scope and sequence." At the same time, Parkview tries to build bridges between subject areas by, for example, pairing English and Social Studies teachers. Thus when the students were learning about ancient Greece, Quinton Smith, their English teacher, had them write memoirs in which they placed themselves in the role of Spartan women. They read *Antigone* and *Julius Caesar*. When they read *Lord of the Flies*, the students talked about what it meant to be civilized.

The teachers are conscious of the "coaching" pedagogy whichSizer has described, and which is now a mainstay of all forms of progressive education. "There's less of giving students worksheets, and more and more of exhibitions and presentations and taking students through a process," says Smith. One question that inevitably arises with such open-ended teaching methods is whether they promote the intended spirit of intellectual exploration not just with the curious and questing few but also with ordinary students. The more prestigious and best-known Essential Schools generally attract a sizable core of ambitious students; Parkview, on the other

hand, serves whatever children are assigned from its largely white, working-class neighborhood. And, in fact, it was not easy to find signs of the kind of intellectual transformation of whichSizer writes; only a few of the presentations showed signs of intellectual ambition, even among upperclassmen. For their final project, the juniors and seniors in Ken Elkins's "Liberty and Law" class prepared oral presentations in which they would set out the salient arguments on both sides of a controversial topic of their choosing. One student did a thorough job of explaining the ins and outs of the Fourth Amendment prohibition against unlawful search and seizure, and related it to the students' own right to privacy. The others had not even grasped the idea of competing, legitimate points of view. One girl explained vaguely why she opposed abortion, and when Elkins asked, "What do you see as the strongest argument for abortion?", answered, "I'm not with that, so I can't really say." Few had mastered the facts and figures within their own subject. The intended conversation degenerated into a dialogue between Elkins and the presenter.

Parkview High School, like all Essential Schools, is very much a work in progress; and perhaps one should say simply that it still has a distance to travel before attaining its ideal state.

Effectiveness and Cost

Evidence of positive effects on student achievement:



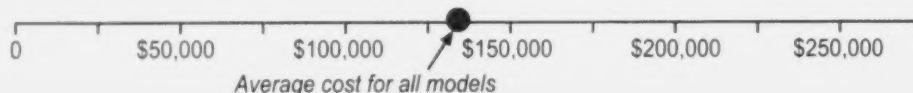
Mixed, Weak: Studies use a rigorous methodology but show inconsistent or no effects.

School support provided by developer:



Marginal: Schools receive support in response to requests for at least one year.

Installation cost (1st year) *Not available*



Current Status

Year introduced in schools	1984
Number of schools (1999-2000)	1,200
Grade levels	K-12

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Core Knowledge

E. D. Hirsch, a professor of English literature, argues that American schools are in the grip of a bias against factual knowledge—a bias promoted by the progressives. Poor children, especially, suffer from a deficit of facts and words and even common phrases. The cure for this deficit is a fact-rich curriculum. Children study history, not Social Studies; they learn places and names and dates as well as larger themes. Hirsch does not specify a pedagogy, but he believes in the virtues of direct, whole-class instruction.

A Curriculum Based on Content, not Process

E. D. Hirsch, a professor of English literature and founder of the Core Knowledge schools, operates as a kind of one-man wrecking crew of progressive education doctrine. First in *Cultural Literacy*, which he published in 1987, and then in *The Schools We Need*, Hirsch has argued that American students are failing because their schools lack a specified, content-rich curriculum—and that they lack such a curriculum because the progressive thinkers who dominate the school world abhor the idea.

Hirsch concedes the good intention of progressives, but nevertheless holds them responsible for the decline of American public education. In *The Schools We Need*, he writes, "There is an inverse relation between educational progressivism and social progressivism. Educational progressivism is a sure means for preserving the social status quo, whereas the best practices of educational conservatism are the only means whereby children from disadvantaged homes can secure the knowledge and skills that will enable them to improve their condition."

Hirsch has been elaborating his own particular

form of educational conservatism for almost forty years. As a graduate student at Yale, the epicenter of the New Criticism, he wrote a book, *Wordsworth and Schelling*, which made the heretical argument that one could not rightly understand certain literary works without knowledge of the author's intentions. In a later book, *Philosophy of Composition*, Hirsch made the equally-unexpected claim that the reason most students wrote such poor essays was

not that they lacked competency in writing skills, but that they lacked the background knowledge assumed by questions: They couldn't answer a test question about the Civil War because they didn't recognize the names "Grant" and "Lee." *Cultural Literacy* rests on this recognition of the crucial role played by "prior relevant knowledge." Relying on research in cognitive psychology, Hirsch concluded that students can not learn to read for meaning unless

they have enough knowledge to instantly recognize most references in a text; otherwise they lose the thread as they puzzle out meanings. Reading is a matter not only of decoding individual words but also of drawing continual inferences, which in turn depend on prior knowledge. That knowledge can be, and usually is, hazy; what the reader requires is

There is an
inverse relation
between educa-
tional progres-
sivism and social
progressivism.

enough familiarity with, say, Grant or Lee to grasp the meaning of a sentence about them.

There Are No General Skills

Hirsch draws the battle line—overdraws it, his critics say—between “content” and “process,” and between knowledge and skills. Citing research in cognitive psychology and artificial intelligence, Hirsch asserts that the only way to teach “higher-order thinking,” or to impart “deep understandings” (to use the language of the progressives), is through specific articles of knowledge. There are no “general skills,” he writes: “All cognitive skills depend on procedural and substantive schemata that are highly specific to the task at hand.” You cannot teach someone to, for example, “think like a historian” save through an immersion in historical knowledge. Thus one needs an “extensive curriculum” rather than the intensive study of a few typical examples—the “less is more” pedagogy of modern progressives. Hirsch notes that American children do well on reading tests prior to grade three, when reading is still a matter of decoding skills, and then drop off. “If in the early grades our children were taught texts with cultural content rather than ‘developmental’ texts that develop abstract skills,” he writes, “much of the specific knowledge deficit of disadvantaged children could be overcome.”

Cultural Literacy was widely lampooned for the sixty-four page list which concludes the book, and which provides a summary of names, dates, facts, and proverbial expressions that “literate Americans know”—“pre-Raphaelite,” “Mephistopheles,” “When the saints go marching in,” etc. The list, which turned into a sort of parlor game, struck many readers as another attempt by cultural conservatives to stave off the forces of multiculturalism and diversity. Hirsch has since explained that he and his colleagues made a list of what literate Americans do know, not that they should know; cultural literacy requires a familiarity with cultural-

ly-shared knowledge. How can you read *The New York Times*, Hirsch asks, if you don’t know many of the terms that the author assumes you know? One of the reasons that Hirsch believes disadvantaged children especially need a “Core Knowledge” curriculum is that, unlike middle-class children, they will not pick up most of these words, phrases, and associations in the normal course of daily life.

Building Towards Broader and Deeper Knowledge

One of Hirsch’s criticisms of the vague or wholly unspecified curriculum that governs most schools is that students often wind up learning essentially the same material year after year. (He also points out that when students move—as poor students, especially, do all the time—they often have to adjust to completely unfamiliar material.)

The Core Knowledge Sequence, as the curriculum guide is called, lays out a spiral in which students build steadily towards broader as well as deeper knowledge. In American and World History, for example—there is no such thing as “Social Studies” in a Core Knowledge school—first-graders learn about ancient Egypt and modern Mexico, about Columbus and the Conquistadors, the Pilgrims and the formation of the thirteen colonies, Daniel Boone and Lewis and Clark. Second-graders learn about ancient India and China and modern Japan, and about the Constitution, the War of 1812, the Westward Expansion and Native Americans. Third-graders do ancient Rome and the Vikings, early exploration and settlement of North America. They, too, study the thirteen colonies, but whereas the first-graders simply absorb a narrative, the older children are expected to learn that the colonies developed differently from one another, and discuss why it is that countries establish colonies at all. The same spiral principle shapes the trajectory of the other subjects as well—English, Math, Science, Music, and Visual Arts.

In *The Schools We Need*, Hirsch mounts a sus-

The only way to
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tained assault against what he considers the hegemony inside the schools of "constructivism," "learner-centered" education, and other progressive techniques. He claims that direct instruction, whole-class teaching and memorization, far from being the bane of the modern classroom, have been virtually abandoned, at least below the level of high school. In a typical elementary school, he writes, "One finds few monologic lectures but a great many project-oriented, hands-on activities. The little rote learning to be observed consistently is the recitation of the Pledge of Allegiance." When

Hirsch wants to conjure up an ideal classroom, he describes a lively, engaged class of Asian students working together on a math problem. Nevertheless, Hirsch has never specified a pedagogy for Core Knowledge schools, and seems content with the idea of a balance of methods.

A three-year study of Core Knowledge by the Center for Social Organization of Schools at Johns Hopkins University found that teachers in these schools used the whole range of progressive techniques, including cooperative learning and hands-on learning. Teachers almost uniformly reported that Core Knowledge enhanced their sense of professionalism by requiring them to come up with strategies to teach far more challenging material than they had in the past. Though Hirsch has been regularly denounced as the reincarnation of Dickens's Professor Gradgrind, researchers appear to have found no evidence of the dreaded "drill and kill" in schools that follow his prescription. The Core Knowledge model has now been adopted in 750 schools.

Morse Elementary School, Cambridge, Massachusetts

The Morse School is an elementary and junior high school located at the edge of the Charles River in Cambridge, Mass. It has never been the school of choice for Harvard professors: Half of its 289

students are poor enough to qualify for federal Title I aid; about a quarter of the students are black, a quarter are Asian, and 7 percent are Hispanic; a third take English as a Second Language. In the early 1990s, rumor had it that Morse was going to be shuttered. Cambridge had instituted a new "choice" system, and very few parents were choosing Morse. The school typically finished in the middle of the pack on test scores, and, outside of a lovely building in a charming location, had very little to offer the immigrant and working-class parents who sent their children there.

Second-graders at the Morse School knew about the Great Wall of China, and the Greek gods.

One of the parents suggested that the school take a look at the new Core Knowledge program, which had first been tried in a school in Florida in 1991. Morse's principal, Jim Coady, says that the authorities in irreproachably liberal Cambridge were appalled by the prospect. "The superintendent's curriculum people were totally opposed," Coady says. "They told us the Core Knowledge curriculum was racist, Eurocentric, homophobic. They said the Harvard Graduate School of Education was against it"—which was true.

Nevertheless, Coady won the right to conduct his experiment, and the school began implementing the Core Knowledge design in 1992-3. Scores began to rise a few years later. In 1998, all grades scored at or above the national norm in reading and math. The first-graders placed third in the city in reading, behind two upper-income schools. Morse has begun to attract middle-class students as word of its achievements has spread, and fears that it would be a bastion of reaction have proven groundless. One parent told me that she had taken her two daughters out of exclusive private schools and put them into Morse, and that both she and her daughters were delighted with the results.

Classical Music for Kindergarten

Children at the Morse school, including very young children, are expected to know a lot of par-

ticular things, and things of a relatively high order. Teachers do not consider this an onerous burden for the children, and try not to make it one. I sat in on a music class for kindergarteners in March, 1999, which began, as such classes often do, with the children clacking rhythm sticks to a simple tune. Then the teacher, Donna Berkson, showed a picture from the *Encyclopedia of World Music* and said, "Here's this man, and he was a composer, and his name was Mr. Moussorgsky. Can you say, 'Moussorgsky'?" He lived in Russia, and he loved to compose. Can you say 'composer'? A composer is a man who writes music. . . ." She played "Pictures At An Exhibition," and the children, who seemed rapt, beat out the rhythm. She played the end of the piece, and then explained what a coda was. Then she played a comic version of the piece made up entirely of barks, meows, bird whistles, and chicken noises. The kids beat out this slower rhythm, and then, working with the children, she diagrammed the repetition of melodies in the piece—A A B A—and reinforced the idea of a coda. And then Berkson and the kids performed a chicken dance to the music.

Children at Morse do not learn to read by any particular method. Teachers use whole language as well as phonics, and insist on a great deal of home reading. The emphasis is not only on decoding skills but also on stretching vocabulary and knowledge. The second-graders read *Charlotte's Web*, though many of them need help from the teacher. Children in every grade are expected to learn large numbers of vocabulary words, usually taken from their reading. The day I was there, the second-graders were expected to learn "bargain," "galley" and "original," among others, and to use them in sentences. The sixth-graders were expected to know "ferociously," "doleful," "unscrupulous" and "perplexed." Shivanthy Srikanthan, a second-grade teacher, reported—this was in the middle of the year—that all of her children were reading. There

**Teachers
at Morse use
projects and class
trips as much as
they do lectures.**

were four below grade, and several two or three grades ahead.

Many of the teachers are struck by the stark contrast between their old and new curricula. Noreen O'Connell, one of the first-grade teachers, recalled that Social Studies used to consist of woolly themes like "Community Helpers." "Then," she said, "they decided that was too airy-fairy, so we did Kenya, for some reason. The theme was

'Neighborhoods,' so they moved to a neighborhood in Kenya. They did rainforests every year, so you get to the fourth grade and they haven't learned any other environment." Now she is convinced that seven-year-olds can learn much more than either she or the designers of those curricula thought possible. Not long before, O'Connell had been sitting with teachers who had complained about the

new statewide standards, saying "You can't expect fourth-graders to know about the Boston Tea Party, Paul Revere's ride, or the Mason-Dixon line." And she had proudly retorted, "Our first-graders can tell you what the Boston Tea Party was, or what Paul Revere's ride was about, even if they can't fully express it. It's up to us to develop their writing skills."

This did not seem to be an idle boast. I sat down to lunch with some of the second-graders one day, and I asked a boy named Michael what the class had been doing in Social Studies. He looked at me quizzically, and said, "We don't do a lot of Social Studies." Then I recalled the old-fashioned Hirschian nomenclature, and asked, "What about History?" Michael instantly brightened, and said, "We're doing ancient Egypt, and we did China and Greece." When I asked about China, Michael's friend Duncan explained that the Chinese had built a series of walls to keep out intruders and then linked them up to form The Great Wall. "Who built it?" I asked. "Emperor Qin Hai," said Michael. Jasmine and Aline, sitting further down the table, were able to name four Greek gods and tell me what they were gods of. Duncan explained the

Egyptian belief in the transmigration of souls. Both boys were able to give me a pretty passable explanation of gravity. They both said that they read for about an hour at home each night, though neither had a parent who read to them. They were aware that they learned more than their friends do at other schools, and they seemed quite pleased about it.

Teams, Projects, Field Trips

Morse uses no more direct instruction with its younger kids than any other elementary school, and perhaps less than Hirsch would like. The third-graders had read D'Aulaire's book of Norse myths, and when I was there they were writing myths of their own. Tin Tin, a boy from Vietnam, recited to me the tale of the theft of Thor's hammer in elaborate detail; he was going to re-write the story, and his friend Anthony was going to produce a cartoon strip to illustrate it. The sixth-graders were reading *The Secret Garden*, and they talked about the metaphorical significance of the garden. Their teacher, Mary Ann Cusack, assigned them a project in which they would form teams to produce a newspaper from the era of the book, and write articles that would shed light on the time and place. They were about to go see the play *Once Upon A Mattress*, and they read from a pre-printed sheet which included a very sophisticated explanation of commedia dell'arte, and a series of questions on the subject to ponder, such as, "What is appealing about seeing a play with the same characters again

and again?"

It wasn't clear if the students were operating at the rather rarefied level assumed by the questions. In fact, the higher up you go at Morse, the larger that gap appears. The eighth-graders did not get a full dose of Core Knowledge until third or fourth grade, and the one class I sat in on seemed as torpid and uninspired as eighth-grade classes everywhere. Cusack said that she had had to tell the Core Knowledge people that *I Know Why The Caged Bird Sings* was an eighth-grade book, not a sixth-grade book, and added that even her eighth-graders had been mystified by the switch between straightforward narrative and interior monologue. When she quizzed them on the book, the whole class failed. She found many of the kids' essays limited and flat. "Core Knowledge gives them a lot more," she said, "but they need to be pushed for their critical thinking." Cusack wasn't sure whether this was because the kids had come to Core Knowledge late, or because the kinds of higher-order skills expected from older students do not arise automatically from a content-rich curriculum.

Still, Cusack would no more go back to the days of Community Helpers than would the other teachers at Morse. She knows she's taxing the children; sometimes they come to her and say, "Please give us an easy book this time." But what has changed, she says, is that "easy" now means "on grade level."

Effectiveness and Cost

Evidence of positive effects on student achievement:



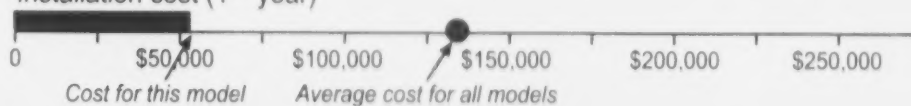
Promising: At least 3 studies use a rigorous methodology and show positive effects.

School support provided by developer:



Promising: Schools receive some on-site technical assistance and a variety of types of support.

Installation cost (1st year)



Current Status

Year introduced in schools	1990
Number of schools (1999-2000)	968
Grade levels	K-8

For more information about Core Knowledge, contact:

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Direct Instruction



Siegfried Engelmann, the founder of Direct Instruction, writes, "If the presentation is consistent with one-and-only-one interpretation, the student will learn the concept that is being presented." The DI lesson, whether in reading or science, is scripted down to the last syllable to ensure that children draw proper inferences. Teachers do not leave a skill until all children have mastered it. This unapologetically behaviorist scheme has made DI effective, but not very popular.

Breaking Down Skills to the Smallest Possible Unit

Siegfried Engelmann, the founder and fountain-head of Direct Instruction, is a behaviorist in an un-behaviorist land. He is indifferent to such shibboleths as child-centered learning, individualized learning, and constructed learning; and yet this indifference scarcely expresses how utterly remote DI is from conventional pedagogies of the left and the right. More illustrative, perhaps, is his paean to the virtues of the assembly line, usually invoked in education circles as the ultimate counter-example: "The assembly line is governed by the notion of efficiency," Engelmann writes in his owlish *War Against The Schools' Academic Child Abuse*. "The pieces that come together should be on time, not so late that assembly of more complex units is impossible. So it is with the schools. . . . The assembly line is based on the idea of quality control. The ideal goal is to produce no damaged merchandise. This goal would be an excellent one for the schools to adopt."

In fact, Direct Instruction puts one in mind of the theories of Frederick Taylor, who broke down

workplace tasks to the smallest unit in order to increase manufacturing efficiency. Engelmann argues that learning has an equally rational protocol. He begins with the assumption that the child is "a capable receiver of information," which is to say that he will learn what he is taught; already we are a long way from models which presuppose that the child's imagination must be engaged, or that his resistance to school must be overcome. Engelmann

then proceeds to the axiom that the learner will construct generalizations from specific examples. The generalization, for Engelmann, is the engine of learning. He does not believe that the child can learn "higher-order thinking skills" directly, as many of the progressives do, or that he can construct understandings from facts coherently presented, as E.D. Hirsch does. "Only mastery of a concept or operation provides the student with

information about how to organize rules, facts and operations," he writes.

No Extraneous Information

The goal of teaching is thus to make the child construct appropriate as opposed to inappropriate generalizations, whether about spelling or mathe-

The goal of teaching is to make the child construct appropriate generalizations.

mathematical operations or the rules of taxonomy. A proper lesson is one that contains all the information needed to master a concept—and only that information. “If the presentation is consistent with one-and-only-one interpretation,” Engelmann writes in *Theory of Instruction*, which is about the closest thing to *Principia Mathematica* in the world of modern pedagogy, “the student will learn the concept that is being presented.” Thus, he writes, if a teacher points to a red square on a felt board and says “red,” the child will not know whether redness is an attribute of the color, the shape, or the material. The proper way to teach red would be to provide a series of examples identical save in color. Engelmann argues that the reason why the whole-language method is an ineffective way to teach reading is that students are asked to construct their own fluency from a wide array of contextual clues; instead, they draw false conclusions based on haphazard understandings. And the whole idea of understanding arising out of something rich but indistinct—out of, say, “apprenticeship” with an expert—strikes Engelmann as an absurdity.

Among the debates to which Engelmann is wholly indifferent are those over the professionalism or educational preparation of teachers. The intellectual energy in his system comes from the experts who design it, not the teachers who deliver it. Engelmann compares the curriculum to a car, and the teacher to a driver. And in Direct Instruction he has come as close as is humanly possible—or so one hopes—to creating the self-administering curriculum. The Direct Instruction teacher reads from a script which dictates not only the content to be learned and the means to be employed, but even the specific words to be used. The language of the script is shaped by Engelmann’s principle of parsimony: every element of the communication should lead students to the appropriate understanding. In general, it’s the kind of language one would use with an information-processing

mechanism: “Your turn,” “My turn,” “Next word,” “Read the first line,” “Everybody, touch under the first word in column 2.” Proper student responses are also included in the script. Engelmann writes that responses are necessary only in order to ascertain that the concept has or has not been understood; in theory, Engelmann writes, in his bloodless social-scientist mode, a learner deprived of all motion save the ability to blink his eyes could function perfectly.

Engelmann
compares the
curriculum to a
car, and the teacher
to a driver.

Engelmann has done for school learning what Taylor did for workplace activities with his time-and-motion studies. He has sought to break down cognitive skills to their smallest units, and to develop a pedagogy that will teach them explicitly and sequentially. In order to teach the pronunciation of “mat,” for example, the teacher first instructs the child to say “mmm-

maaaat,” and only then to “say it fast.” “We should not covertize the routine,” Engelmann notes, “until the learner is reasonably proficient with overtized routines.” The same principle applies to all forms of learning, no matter how sophisticated, though the means of instruction will vary with the nature of the concept. Thus, Engelmann writes that one can teach the concept of momentum by stating, “I’ll tell you about a car that drives into a brick wall. Listen. The first time the car hits the wall, it goes through four feet of brick before it stops. The next time it doesn’t go through four feet of brick, it goes through three feet of brick before it stops. It had less momentum this time. . . .”

Returning Again and Again

Another of Engelmann’s fundamental pedagogical principles is recursiveness. A teacher in a Direct Instruction classroom may return half a dozen times in a given lesson to a definition, a spelling, a mathematical formula; facts learned one day pop up again and again on ensuing days. Engelmann ridicules the “spiral curriculum” advocated by psychologist Jerome Bruner, in which teachers periodi-

cally revisit basic ideas, by asking, "Don't [cognitive theorists] know that if something is just taught, it will atrophy the fast way, if it is not reinforced, kindled and used?" Indeed, Engelmann makes a telling point about education theory in general when he writes that "Traditional educators express opinions through metaphysical arguments that revolve around the categories they understand; but the real issues... are very picky, precise, technical matters."

Like Success For All, Direct Instruction was designed to teach literacy and numeracy to impoverished children at risk of failure. It was intended, in short, to teach "skills." But what happens when the child then deploys those skills in the direct pursuit of knowledge—of history, say, or literature? Engelmann insists that his schema is universally applicable; and so he labors to break down the fluid or multi-pointed nature of narrative knowledge into discrete, hierarchically structured units—"fact systems," as he calls them. All such systems, he writes, can be visually reproduced as charts, with boxes, or "cells," cordoning off units of knowledge, and lines representing their mutual relationship. He even specifies that charts should contain no more than sixteen cells. This has an almost mad-scientist quality of abstraction—like suggesting that children swallow pills containing the various elements of a balanced diet rather than actually eating their lunch.

Like so many behavioral schemes, DI poses the dilemma of being ugly but effective. From 1968 through 1976, DI was one of twelve models in a kind of giant contest sponsored by the U.S. Department of Health, Education, and Welfare. Among those children who had started in the sponsor's school in kindergarten, DI came in first in reading, arithmetic, spelling, language and even, Engelmann writes, "positive self-image." DI won; and yet the panel of experts decided, over the objections of Commissioner of Education Ernest Boyer,

to give no special recognition to DI and instead to recommend most of the models for adoption. DI has, in fact, never caught on widely despite consistent proof of effectiveness. Only about 150 schools have fully adopted the design, though the instructional materials published by SRA and generally authored by Engelmann are used in many non-DI schools. Engelmann blames "liberal" values for his marginalization. "Anybody advocating 'skill' instruction is a reactionary," he bitterly declares, "a primate who has apparently been absent from the educational scene for thirty years."

**You can hear
the shouted
call-and-response
echoing up and
down the hallways.**

Hamstead Hill Elementary School, Baltimore, Maryland

Here is a scene that one might not expect to find in a late-twentieth-century American classroom, and possibly not even in an early-twentieth-century one: A teacher slowly circles her second-grade class, which is grouped in five rows of five children.

Reading from a spiral notebook, she barks, "What word?" And the children, their eyes locked on a vocabulary list in their workbooks, cry out in unison, "Taste!" The teacher sharply snaps her fingers at the side of her head. "Next word! What word?" "Ankle!"

Snap. "Next word! What word?"

"Tasted!"

Snap. And so on, down to the bottom of the column. "Great job! Touch on the first word of Column 4. Good touching! What word? . . ."

You can hear the shouted call-and-response echoing up and down the hallways of Hamstead Hill, a school close to Baltimore's Inner Harbor that serves a predominantly working-class population. The shouting isn't absolutely necessary; Janet Mahoney, a third-grade teacher, says that she winces when she hears it. But since the DI script is mostly written in the imperative mode, and students generally respond in unison, and communication on both sides is speedy and short, the classroom often descends into earsplitting *obbligato*. At

the same time, the transaction is anything but chaotic. One bit of information is separated from another by unmistakable punctuation—a finger-snap, a clicker, a clap.

At first, one is simply transfixed by the sheer oddness of the DI method. Nothing is left to chance. The teachers even read their own choreography aloud: "Now I'm going to call on individual children to read for me." Even fifth-graders are not expected to "discuss" a reading passage; they supply facts that the teacher asks for. An almost military order reigns. Posted in each class are the following instruction: "When the teacher says 'My Turn': 1) Put your belongings down; 2) Raise your hand and look at the teacher; 3) Wait quietly." And the children do just that. In one first-grade class, they assumed a "ready position" with hands clasped on top of desks,

**Teachers always
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students are—at
lesson 67 or 131,
ahead or behind
schedule.**

Phonics Reduced to a Science

Only gradually does one begin to attend to the actual pedagogy, and to recognize the extraordinarily detailed method that lies beneath the highly stylized performance. The reading instruction in Marybeth Smith's kindergarten class is phonics reduced to a science. In the first week and a half of school, the children learned only two sounds and their phonetic symbols—the short "a" and the "m"—and they learned them again and again and again. By the end of the year, they know the phonetic alphabet. Smith touches a symbol, and the children, gathered around her in a little semicircle, produce the sound. They sound out a word, and then Smith zings a finger along the word and says, "Say it fast," and the children pronounce the word. They know the rule for "oo," but they also know that "took" does not correspond to the rule. Smith hands out a primer—Reading Mastery II—written entirely in phonetic symbols, which of course have a one-and-only-one relationship to the various English sounds. The children read a sentence from

the primer, and Smith claps after each word. Then they repeat the sentence without the clapping. Then they repeat it again without looking at the book. Then they go back to the words they just learned—"firming," Engelmann calls it. Then back to the sentences.

Here one sees the basic elements of the DI pedagogy—the breaking of a task down to its constituent parts, swift movement from one set of skills to another, constant repetition, unrelenting purposefulness (though Smith and the children played horsey when the lesson was done). But you could see the same thing in any class: The Direct Instruction curriculum is a single unbroken ribbon that stretches from one end of elementary school to the other. Even the most advanced students at Hamstead Hill start the day with a ninety-minute class in reading, though they work from Reading

Mastery VI rather than II. They, too, work on skills. The students in Sharon Walker's fourth- and fifth-grade reading class chanted vocabulary words back to her, and went back over the words again and again. The emphasis in reading was on factual comprehension, not interpretation. They read a story about Apollo and Demeter, and Walker asked, "What would Apollo bring with him that was forbidden in the kingdom?" And the children shouted, "Sunbeams!" The reading for the upper grades is meant to provide a grounding in facts, but the facts are offered not within the confines of a curriculum in science or history, but in order to encourage the skill of factual recall.

Climbing the Ladder of Skills

Passage from one level to another is measured by a growing sophistication in skills, so that decoding skills gradually give way to reasoning skills. The students in Walker's class engaged in explicit exercises in logic. They were given a statement, and asked to write three statements that contradicted it. The text for the Language class is called Reasoning and Writing; in fact, one of

Engelmann's more heretical practices is to treat writing as reasoning made visible. In a typical workbook exercise from Walker's class, students were shown an ad for a product called Water Blaster, as well as a table showing facts that undermined the claims made in the ad. Students were asked to distinguish between misleading and inaccurate claims, and to list examples of each. This was not an invitation to engage in self-expression. One student wrote, "Two claims are inaccurate. The ad states that Water Blaster shoots 25 feet but Water Blaster shoots 20 feet. . ." An exercise for third-graders shows two pictures with "before" and "after" narratives, and asks students to "write a paragraph that tells about the first picture and the missing picture." The exercises get more complicated, and less rigid, until students are asked to "write an interesting story" about a densely narrative picture. Language classes, of course, also include a great deal of grammar. "Tell me the subject, everybody." "Tell me the predicate."

Engelmann insists that DI schools focus single-mindedly on the job of teaching children to read and write effectively, which may help explain his limited success in the marketplace of school reform. Whether in first grade or fifth, students at Hamstead Hill begin the day with a ninety-minute class in Reading, followed by an hour of Language, followed in turn by thirty minutes of spelling. After lunch, they have Math and Core, the one fact-based

element of the curriculum, which alternates between Social Studies and Science. Hamstead uses the Core Knowledge curriculum for this period. Students have one period every other week for art; ditto for music, gym, and computers. Recess lasts fifteen minutes a day. Teachers aren't given time to plan the curriculum; of course, there's almost nothing to plan. They are, however, expected to fill out extremely detailed day-by-day reports on student performance. It's a taxing regimen for all. Janet Mahoney says that when she tries to conduct her School Improvement Team meetings after school, most of the teachers sit there in a stupor. "In this curriculum," she says, "there is no down time." Nevertheless, the teachers do not seem to bridle: They like the pellucidity of the system. DI is designed so that students of average ability complete one lesson per day. Teachers always know exactly where students are—at lesson 67 or 131, a little ahead of or a little behind schedule. Students are grouped homogeneously, so teachers needn't worry about the student who can't keep up, or who has to wait for the others. And if you get in a jam, you can consult the figure immediately above you on the unambiguously vertical DI hierarchy, which stretches from grade-level "coach" to school-based "curriculum coordinator" to multi-school "trainer" to multi-trainer supervisor. There may be some circles where "fuzziness" is considered an important attribute of learning; but not in DI.

Effectiveness and Cost

Evidence of positive effects on student achievement:



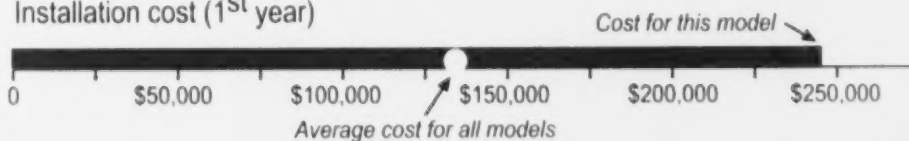
Strong: At least 4 studies use a rigorous methodology and show positive effects.

School support provided by developer:



Promising: Some on-site technical assistance and a variety of types of support.

Installation cost (1st year)



Current Status

Year introduced in schools Late 1960s

Number of schools (1999-2000) 300

Grade levels K-6

For more information about Direct Instruction, contact:

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 Association for Direct Instruction
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 Eugene, OR 97440

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 Web site: www.adihome.org

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Edison Project



Edison is the only model in this guide that is produced by a profit-making company, yet the design is more a consensual than a conservative one. The curriculum is dictated by detailed standards designed to promote understanding as well as factual grasp; the “student-centered” pedagogy also incorporates direct instruction. The Edison school is divided into “academies,” to mark out broad intellectual stages, and into still-smaller “houses,” to promote a sense of community. Technology is central: All teachers and students above grade two receive a computer.

Explicit Standards in an Embracing Community

The Edison Project, recently renamed Edison Schools, has not generally been thought of as one school model among others so much as a bold attempt to prove something about markets: That a private, profit-making company can do a more effective job of educating students than the public schools have. This hardly counts as a misconception, since the Edison Project’s founder, Chris Whittle, broadcast this claim to the media when he created the company in 1991. The very idea of making money off an activity so fundamentally public, and so deeply moral, is sufficiently shocking that a great many people in the school world and the wider policy world have been ardently rooting for Edison’s failure. As yet, Edison has neither turned a profit nor failed; about seventy-five public and charter schools are currently working under contract with the company. The controversial issue of profit has, however, obscured the fact that Edison has produced a school model that is not “about” markets in any but the most indirect sense.

Edison's need to satisfy the market precluded ideology; the design was even market-tested.

If one may place all of the “guru-driven” models—Direct Instruction, Multiple Intelligences, Core Knowledge—at one end of a spectrum, the Edison Project belongs at the opposite end. It was created, not by an individual with a vision, but by a “core team” hired by Whittle to come up with an effective school design. Many of the members were successful professionals with no prior connection to education. The need to satisfy the market precluded ideology. The core team even test-marketed its design through polling and focus groups, an effort which convinced the members that parents are more willing to accept alternatives to traditional school design than is wide-

ly thought.

Straddling Traditional and Progressive

The whole process was bound to produce not a specific doctrine but a reflection of a broad consensus inside the school world—which is to say, a far more progressive model than one might have expected, given the origins of the project. John Chubb, Edison’s director of curriculum, has written that the competing designs developed by members

of the core team resembled one another to a remarkable degree. All opposed tracking, and held out high expectations for all children; envisioned a curriculum organized around clear standards; proposed an integrated and student-centered pedagogy, though without scanting direct instruction; supported portfolios and performance assessment as well as traditional standardized tests and Advanced Placement courses. The various designs that fed into Edison also focused on forging strong ties inside the school, promoting ethical behavior, increasing parental involvement, and expanding the use of technology; they proposed a longer school day, enhanced teacher professionalism, a leaner administration. Chubb concludes, "The familiarity of many of [the design elements] also suggests that school design isn't so hard after all." Or perhaps it simply suggests that the team was comfortable with the more familiar elements of school design, even when some of those elements might seem to conflict with one another.

Edison's actual curriculum consists largely of a series of well-regarded, off-the-shelf packages—Success For All for reading and language arts instruction and the University of Chicago School Mathematics Project for math instruction. Edison is currently switching its science curriculum from one designed by Scholastic to another known as TRACs. What the designers chose to develop on their own was not curriculum but standards. Edison has published extremely detailed standards for students in all subjects and at all age levels. Thus, for students in grades K through 2, Edison has devised twelve separate standards in mathematics. The first standard is, "Demonstrate number sense, or intuition about numbers large or small." Among the fifteen sub-standards listed here is, "Count forward and backward from any given number." The twelfth standard is, "Use a variety of strategies to solve real-world problems, communicating solutions and justifying answers, using bar graphs, charts, writing and everyday language." At the other end, among

Over a year,
students log
about 25 percent
more time in class
than the norm.

the history standards for high-school students is, "Students will be able to identify, explain and analyze the economic boom and the social transformation of postwar United States. . . ." The designers, in effect, decided to stipulate end points rather than means—in itself a reflection of that broad consensus.

A Contract Guaranteeing Autonomy

The most distinctive elements of the Edison design are structural. Edison is a private company which contracts with local districts and also operates charter schools; this ensures that schools will have autonomy over issues of budget and hiring. Edison schools set their own calendar; students go to school 200 to 205 days a year and eight hours a day (seven for primary-age students). This means that they log a quarter or so more time in class than do students in conventional public schools.

(Teachers are, accordingly, paid somewhat more at Edison than at comparable schools.) The schools are subdivided into six "academies" stretching from pre-school through high school. Each academy, in effect, marks out a separate stage in the child's intellectual development. Students remain with the same teachers, and thus with the same group of peers, during their two or three years in a given academy. Each academy is further divided into "houses" of 100-180 students, led by a team of teachers; in smaller schools, the houses cut across academies.

School culture is a central issue in the Edison design. The creation of small units is intended to give the school the kind of intimacy usually associated with elite private schools—among students, between students and teachers, and among teachers. Teachers are expected to serve as both institutional and intellectual leaders, and are given the time and autonomy necessary to do so. Every teacher has one and a half to two hours per day for planning; much of this time is to be spent working in tandem with colleagues in a house or academy, discussing instructional issues as well as concerns about particular children. The Edison design also places an

explicit focus on "character and ethics." School is organized around eight "core values," and students read literature designed to encourage these traits and provoke discussion of them. The schools are designed to be moral in the modern, secular-humanist sense. "The stories [students read] are multicultural in scope," according to a description of Edison's academic program, "making the obvious point that honesty, hope, courage, respect and justice are universal concerns, not sectarian or localized to particular communities, nations, or cultures."

Edison is probably most famous for Whittle's promise to guarantee that each child has a computer at home. The promise only applies to children in grade 3 or higher, but it also includes all teachers; Edison also promises that every classroom will have three computers, and every family will receive a multimedia machine which includes a scanner and a video camera. Computers have, of course, become a kind of a shorthand for school quality. Edison's computer component has proved to be extremely popular with parents and school districts; on the other hand, it's not obvious that schools and children need all this technology in order to attain Edison's standards.

When Whittle first shocked the eminently shockable school world with his proposal for a chain of money-making schools, he was able to plausibly argue that the Edison Project offered one of the few meaningful alternatives to a monolithic public system. Plainly, that is no longer true, and it can no longer be said that only the marketplace can offer a practical vision of reform. People with no interest in profit have supplied many such visions. It would be ironic if Edison survived despite, not because of, its free-market ideology.

**Teachers have up
to two hours a
day to work with
colleagues and
meet with
children.**

Roosevelt-Edison Charter School, Colorado Springs, Colorado

Every morning at 8, half a dozen fourth- and fifth-graders gather in the television studio at the Roosevelt-Edison Charter School to announce the weather and the news of the day. The other kids can watch from their homerooms, since every classroom at Roosevelt is outfitted with the kind of very large television set which most people would be proud to have in their living room. After homeroom, even the very young children start circulating around the school, because first period is devoted to "specials"—Spanish, art, and music. Specials are followed by a ninety-minute block of reading instruction in the Success For All program, and then the schedule becomes individualized. In the course of the day, everyone will have an hour of math and half an hour or so of writing workshop. Students take Science, History/Social Studies, gym, and each of the specials either two or three times a week. School doesn't end until

3:30. Classes used to run until 4:00, but teachers found that, between planning and after-school professional development, they were routinely staying in school until 5:30. It was, they say, harder on them than it was on the kids.

Roosevelt-Edison is located on a pleasant side street and has a front lawn with real live grass, but its demographics are more urban than suburban. The school is 28 percent black and 17 percent Hispanic; 60 percent of the children are Title I-eligible. Edison has generally made a point of locating schools in high-poverty areas in order to dispel the impression that it is trying to skim off the high end of the market. The children at Roosevelt-Edison wear blue and white uniforms, and grumble about it some, but the school is scarcely traditional, much less stern. The classrooms have no doors; some of them are separated from hallways by a

curtain, some not. Some classrooms have conventional desk arrangements, but even older children spend a fair amount of time sitting on the carpet. The end of reading instruction is marked by music piped over the public address system; one day recently, it was "La Bamba." Other periods aren't marked at all, though they are strictly observed.

Computers at Home

For all the talk of technology, one is not particularly struck by the ubiquity of computers at Roosevelt-Edison. The computers often sit unused or are used for relatively mundane tasks. In a third-grade Spanish class, two children sat at computers and worked on a program in which they matched pictures to Spanish words. They did only a little better than random, and the beeping was mildly intrusive as the rest of the class recited the days of the week, the letters, the colors, and so on in Spanish. Some first- and second-graders did research on the computer for a biography, but the language was too difficult for the younger ones to understand. On the other hand, the children have the chance to become comfortable with computers from an early age. The kindergarteners were using the keyboard to write their names and to make pictures with computerized stamp pads. And it may be that the most important use of technology takes place at home. Students work from home on the laptops Edison gives them, and the school and its families are connected by a regular stream of e-mail.

Roosevelt-Edison is about halfway between a progressive and a traditional school. There are the uniforms, the strict protocol of the Success For All curriculum, the Spanish instruction starting in kindergarten, and the classes in spelling three times a week. On the other hand, when you ask teachers what they like about the school, they're apt to mention the music or the art program. "These kids can talk about symmetry and they can talk about Van Gogh," said Lou D'Amato, a first-grade teacher.

**Computers at
Roosevelt often sit
unused, or are used
for mundane tasks.**

"We were doing the Fifties, Sixties and Seventies, and I had the kids read a book on Jackson Pollack that was appropriate for them, and then they painted their own Pollack." D'Amato added that the Edison pedagogy and curriculum have made her focus relentlessly on "higher-order thinking." Edison sets large-scale themes, known as "intensives," for all of its schools. The then-current intensive was known as "Our Amazing Century," and students were working on biographies of notable twentieth-century figures. This included the first-graders: The children in D'Amato's writing workshop class were reading books and somewhat fruitlessly scanning the computer in order to prepare their biographies. Soon they would start coming up with ideas, and then work on "sloppy copies."

Edison's pedagogy emphasizes exploration. In his fifth-grade math class, Ron Alderson was teaching the children how to use estimation in order to solve a division problem. "Can we do it the old-fashioned way?" a student plaintively asked. "Not today," Alderson said. "I want to teach you many different ways to work the same problem. One of them will click with each of you." A student showed me how to use the "lattice method" to solve a multiplication problem, though, as it happened, she came up with the wrong answer. Students in fifth-grade science were reading a text called *How People Invent*, and working on their own inventions. Two boys had created the "Millennium Mousetrap," which consisted of a cardboard ramp with a corrugated stairway to keep the mouse from slipping back; the ramp was dotted with food, and led to a platform with a trapdoor.

Teaching Ethics Explicitly

The character-and-ethics component is woven into the daily life of the school, but it is also explicitly presented by an "intervention specialist," James Hegler, who visits every class once a week. Hegler spoke to a group of fourth-graders about the difference between courage and recklessness. He

gave them a questionnaire to fill out with their parents, and he tried to emphasize the idea that it requires more courage to do the right thing than the wrong thing. The students were about as receptive to this thoroughly adult conception as one might expect them to be. "It take a lot more courage to do what your teachers want you to do and what your parents want you to do" he asked; "right?" "Nope," said a boy in the second row.

Roosevelt-Edison consists of a Primary and an Elementary Academy, which occupy opposite wings of the school. Each academy has two "houses," and each house has six teachers. These teachers think of themselves as a unit. They are responsible for keeping track of the children in their house, but what is most important about the system is that it allows them to work in a coordinated way. They meet every day. One day they discuss curriculum; another day, professional development; another, specific children. One recent morning, a group headed by

Ron Alderson talked about a recent trip some of the teachers had made to receive additional training in the Success For All program; the portfolio that they themselves would have to submit to the principal to demonstrate their own progress in five areas, including student achievement and "customer satisfaction"; and the "Hero Project," a national competition that Edison had created in connection with this year's intensive. Perhaps, they decided, they would videotape the winning presentation which the school would send on to Edison's main office in New York.

The teachers do not seem even remotely conscious of the fact that they are employees of a private, profit-making company. Asked how she felt about being part of an experiment in the power of the marketplace, Michelle Schomas, a fourth-grade teacher, looked perplexed, shrugged, and said, "It feels like a regular school."

Effectiveness and Cost

Not available

Current Status

For more information about the Edison Project, contact:

Year introduced in schools 1995

Number of schools (1999-2000) 79

Grade levels K-10

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Expeditionary Learning Outward Bound

German educator Kurt Hahn, the founder of Outward Bound, believed that school must promote moral development as well as the ability to experience joy; he placed teamwork, and the arduous physical test, at the core of the school experience. The Expeditionary Learning school preserves this faith in active self-discovery: The curriculum is organized around "expeditions" which are designed to root learning in personal, often physical, experience. Students studying geology might spend a week in the field.

Learning Takes Root Through Journeys into the World

The Expeditionary Learning Outward Bound school represents a contemporary American adaptation of a pre-war European model—the Outward Bound program developed by Kurt Hahn, who fled Hitler's Germany for England in 1933. Hahn was an educator who as a young man sketched out a model of an ideal school based on the austere and rigorous virtues praised by Plato in *The Republic*. Even before the catastrophe of World War I, Hahn saw a Germany that was militaristic, self-seeking, and spiritually bankrupt; he was attracted to Plato's vision of education as moral regeneration. Hahn was also an Anglophile who had studied in Oxford as a young man, and he appears to have subscribed to the cult of physical and moral fitness that was the foundation of Lord Baden-Powell's Boy Scout organization. Like Baden-Powell, Hahn believed that the shallow individualism of contemporary culture needed to be countered by a new spirit of service.

World War I persuaded Hahn that he had to move from theory to action. In 1920, he founded

Hahn used physical challenge to provoke a sense of interdependence and self-discovery.

the Salem School under the sponsorship of Prince Max von Baden, Germany's last imperial chancellor. Ten years later, Hahn codified his principles in "The Seven Laws of Salem." These were: "Give children the opportunity for self-discovery"; "Make the children meet with triumph and defeat"; "Give the children the opportunity of self-effacement in the common cause"; "Provide periods of silence"; "Train the imagination"; "Make games (i.e., competition) important but not predominant"; and, "Free the sons of the wealthy and powerful from the enervating sense of privilege." One can read all sorts of influences in this credo: Not just Plato and Baden-Powell, but also Rousseau, Goethe, and John Dewey. One can read, especially, a reaction against the rigidity of the gymnasium and the stultifying stratification of the German culture in which Hahn was raised.

Freeing the Child from Academic Routine

Hahn most resembles a modern progressive in his belief in the virtues of the imagination, and his wish to see children liberated from academic routine. "Every boy and girl has *grande passion*," he wrote, "often hidden and unrealized to the end of life. . . . When a child has come 'into his own,' you

will often hear a shout of joy, or be thrilled by some other manifestation of primitive happiness." Hahn stood for the *grande passion* as against all that was "enervating." At the same time, what made him unique among the progressive educational philosophers of the Twenties was the idea that the child could come into his own through testing himself against his own physical limits, as well as through acts of "self-effacement in the common cause." Hahn maintained that the arduous physical test, like the act of self-sacrifice, allowed the child to leave behind his narrow egotism and embark on a voyage of self-discovery. Children and teachers at Salem formed a fire brigade; at the Gordonstoun school, which Hahn founded after he had been released from Hitler's prisons, he established emergency patrols along the Scottish coast. The curriculum included mountaineering and sailing.

These ideals have lived on in the Outward Bound program, which Hahn founded in 1941 in the hopes of preparing England's youth to withstand the Nazi assault. All the rock-climbing and river-fording in Outward Bound is meant to constitute not an end in itself but a means to master fears, strengthen the will, and learn an ethic of interdependence. Outward Bound is an educational philosophy and a kind of moral paradigm, one which Hahn hoped to promote as an alternative both to selfish individualism and to the nightmarish collectivism of the Nazis. There have been schools based on the Outward Bound model since the immediate post-war period.

Of course, the crisis that has provoked the current wave of school reform is not moral but cognitive. And so the Expeditionary Learning model of today represents a blend of Hahn's program of spiritual renewal with more conventional progressive strategies. At its core is still the idea of physical adventure and self-discovery inherited from Outward Bound. The authors of the model, in the design proposal they submitted to New American

Schools, wrote, "Expeditions are discovery operations. They start from scratch and travel light, relying on courage and compassion as much as intellectual and physical acumen. . . . They demand teamwork and the personal best from members to achieve success." Some expeditions are, however, essentially metaphorical—trips to the library or the

museum, or "learning-by-doing" exercises in the spirit of Dewey. Some do not involve travel at all. First-graders at an Expeditionary Learning school in Iowa carry out an expedition called "Books, Books, Books!" in which they "become beginning readers and budding authors and playwrights who write individual and class books and create and perform a class play." This may not require

quite as much courage and compassion as a white-water rafting journey.

The expedition is designed to incorporate as much curricular learning as possible—no easy matter.

Classroom as Base Camp

At its core, expeditionary learning is a form of the interdisciplinary, project-based pedagogy now used in many progressive-minded schools. Indeed, the word "expedition" really refers to a semester-long interdisciplinary project. Students might, for example, do an expedition on Galileo that incorporates elements of mathematics, astronomy, history, art, and literature. What is unique about the design, besides the Outward Bound-type experiences—which often have a somewhat tenuous relationship to an academic curriculum—is the importance given to learning outside of the classroom. The school's designers refer to the classroom as "the base camp," to be used largely for those basic skills that must be taught abstractly. The expeditions, in the language of the proposal, "give students a reason to apply themselves to acquiring basic skills." The school thus features a swift back-and-forth between abstraction and application, which is in turn meant to demonstrate that "for students to learn, there must be a balance between learning how to learn, and acquiring skills and the sharp slap

of experience that challenges what one has learned." Although students are also expected to do a fair amount of classroom learning in those subjects where the sharp slap of experience is not so applicable, such as math, the expedition is supposed to be designed in order to incorporate as much of the curriculum as possible. This is no small matter, since an overnight trip is a staggeringly inexact way of imparting any particular element of curricular knowledge.

It is becoming common for schools to be divided into small units to promote a sense of community. Expeditionary Learning takes this principle a step further. Students are organized into "crews" of twenty-five or so. The word comes from Hahn, who drew a distinction between passive spectators—"passengers"—and children actively shaping their own fate. At school, the crew constitutes a homeroom class; on the road, it's something like a family unit, taking long bus rides and bunking together, and depending upon one another on the rock face. Teachers are expected to serve as the guides and coaches of this community—camp counselors with a full teaching load.

The creators of the Expeditionary Learning school have modified Hahn's seven laws, adding such modern-sounding principles as "The having of wonderful ideas" and "Diversity and inclusivity." Nevertheless, the original spirit remains intact. The Expeditionary Learning school still offers periods of silence and reflection, still frowns upon competition, still places an ethos of active service at the core of education. It is remarkable that an education philosophy first developed to cure the spiritual ailments of late-imperial Germany has survived to our own day. After all, the kind of children most American education reformers now worry about do not suffer from enervating privilege, and do not need many lessons in failure. Their needs are more rudimentary: They lack academic, rather than life,

experience. This may help explain why the model has been installed in only sixty-five schools so far. The question raised by Expeditionary Learning is the one raised by other admirable models of progressive education: Can we attain the loftiest objectives without losing sight of the most fundamental needs?

Rocky Mountain School of Expeditionary Learning, Denver, Colorado

A couple of big white vans are almost always stationed in the parking lot of the Rocky Mountain School of Expeditionary Learning, in Denver. These vehicles constitute the school's caravan system. At any given moment, most of the school's students and teachers will be either planning an expedition, doing an expedition, or reflecting upon what was learned in the course of a recent expedition. On a May morning in 1999, when I visited, David Smith and his fifth-graders were supposed to be rock climbing in Leadville, Colorado, but the trip had been scrubbed by heavy rain and snow. Instead, they climbed in the vans for an architectural tour of Denver.

Smith had devised an expedition for the spring semester based on the study of architecture. The children had been studying the historical development of architectural style, and reading articles and books, including Tracy Kidder's *House*. They had built models of great structures, from the Hanging Gardens of Babylon to the John Hancock building. Smith had intended to conclude the Leadville trip with a tour of the town's Victorian houses and stores; the weather had forced him to improvise. The first stop was a nearby art school, which had mounted an exhibition on William L. Steele, an early exponent of the Prairie Style. The children watched a video on Steele and his work, and studied wall text and photographs. Aaron said, "In the Prairie Style, you can see a little bit of classical." "Like what?", asked Smith.

**Fifth-graders
studying architec-
ture visit a muse-
um, talk to an
engineer, make
sketches.**

"Those white lines"—horizontal bands of limestone—"are like friezes." It was a plausible conjecture. Monisha recognized that an elaborate floral cluster on a courthouse was out of character with the Prairie aesthetic. The class got back into the vans and went to look at an immense new fieldhouse under construction at Denver University. A construction official delivered a brief lecture in front of the hockey rink. The children asked, "Why do you use so much copper?" and "Why is the stone at the base rough?"

Aaron, always out to impress, asked, "Would you call this style 'post-modern'?" Later, he offered a passable definition of the term. The children got a tour of the fieldhouse, and then sat out on a hillside to sketch the fieldhouse's rather gaudy bell tower. They ate lunch in the student commons and then walked around the campus, identifying architectural styles on command.

A Whole Curriculum Through Architecture

For Smith's students, architecture was not only the chief subject for the semester, but an organizing device for the entire curriculum. The science they were learning was architectural engineering—tensile strength and cantilevering. They were learning orthodox fifth-grade math, but using story problems involving scale, or cost per square foot. They were learning history through architectural styles, and they wrote papers on the principles of Vitruvius. In the fall, the organizing topic had been the pillbug, or roly-poly. They had studied Linnean classification. They wrote a story called "If I were a pillbug," and a mystery story on pillbug habitats, and their math problems had to do with the costs of building pillbug enclosures, or advertising pillbugs. The year before, Smith had focused an expedition on the Colorado and Platte rivers; the children had studied the ecology of the river, learned about the economics of water rights, read *Tom Sawyer*, and, of course, took many trips along the rivers.

**Rocky Mountain
is a hybrid of
progressive school
and traditional
summer camp.**

Rocky Mountain is plainly a delightful place to go to school. The students, most of whom come from middle-class backgrounds, seem eager, attentive, curious. They get to go on extremely cool trips with their best friends, and without their parents. The breaching of the wall between school and home creates an atmosphere of almost familial ease between teacher and student. Even the younger students refer to their teacher by first name, and the high-school students—Rocky Mountain is K-12—

treat the teachers practically as peers.

The day feels meandering even when in fact it's been carefully planned; only a few subjects, including math and Spanish, are actually taught as discrete units. Learning is meant to grow "organically" out of experience.

Of course, no such thing happens on its own. Jennifer Wood, who teaches third and fourth grade, said that upper-level teachers often critique proposed

expeditions by asking for less experience for its own sake and more specific curricular outcomes. Wood's class was planning a camping trip to the Four Corners area which was tied to an earlier expedition on Colorado history and had little to do with the current theme, the scientific method. At the same time, Wood's classroom reflected a crisp sense of intellectual purpose. At the beginning of the semester, the students had posted on the wall the kind of questions they expected science to answer: "What kind of chemicals blow up?" or "How much wind does it need to lift a plane?" They were reading about scientists, preparing oral reports on a scientist of their own choosing, and conducting daily science experiments. They had learned enough that they were devising experiments of their own. Hannah, for example, had designed a procedure for testing the pH of various substances using radish skin peeled off with a thumbnail and soaked in water. The children wrote down their hypotheses, their findings and their conclusions.

"Trust Games"

Rocky Mountain in many ways resembles a generically progressive school: It uses an interdisciplinary curriculum, portfolio assessment, and demonstrations of mastery which permit students to move on to a new stage every three years or so. What distinguishes it is not only the rock climbing but the principles behind it, which today one is likelier to find in old-fashioned summer camps than in schools. In gym, students don't play sports; they work on building strength and the spirit of community. They practice "trust games," including an exercise in which they form a tight circle and then subside into one another's lap. Students are required to perform service activities; older ones must also do a "civic action" exercise, such as writing to a public official. And the students are expected to reflect on all of their activities, as they do in Outward Bound. In an essay about a trip to the San Juan River, one eighth-grader wrote, "I think one of my strengths was overcoming my fear of large deep cracks in the ground." He also noted rather wearily that he discovered he could get along with every single kid in his class.

Rocky Mountain is also unusual in that it runs from kindergarten through high school, and so one

can judge the cumulative effects of the expeditionary learning idea. The younger children seemed to thrive, though not many of them arrive at school with the kind of profound cognitive problems that often unsettle the best-laid progressive plans. It's harder to say with the older students. A group of sophomores and juniors was said to be studying "nuclear physics," but in fact they were learning about nuclear power plants, mostly without equations. Rocky Mountain does not offer Advanced Placement courses, and the more rarefied forms of academicism may be contrary to its nature. A group of middle-school students had been studying Latin America all year; but when asked to do an "atlas project" on a Latin American country, few seemed to have any prior knowledge to build on, or even to be interested in the countries they had chosen. Many of them had misspelled fairly elementary words. One student said, "They always tell us we can worry about that later." On the other hand, Katie, in David Smith's fifth-grade class, wrote a fine paper on Vitruvius, went through five drafts to perfect a short story using dialogue, cooked dinner for the children at Ronald McDonald House, and spelled everything very well, indeed.

Effectiveness and Cost

Evidence of positive effects on student achievement:



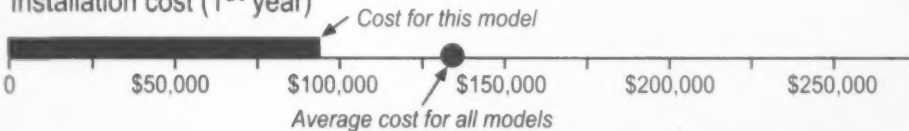
Promising: At least 3 studies use a rigorous methodology and show positive effects.

School support provided by developer:



Strong: Schools receive frequent on-site technical assistance and a variety of types of support for the full implementation period.

Installation cost (1st year)



Current Status

Year introduced in schools	1992
Number of schools (1999-2000)	60
Grade levels	K-12

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Multiple Intelligences



Psychologist Howard Gardner contends that schools have failed because they ignore the multiplicity of children's gifts. Students with a highly developed "spatial" or "musical" intelligence are ill-served by lessons couched only in logical or linguistic forms. MI schools place music and art on an equal footing with math and science, and they try to mobilize all of a child's "intelligences" in the teaching of even basic skills. A teacher might use dance, for example, to help a child learn math.

Children Can Learn in Far More Ways Than We Recognize

"Multiple Intelligences" is not the name of a theory about learning, or a school design, or an education network. It is the extremely catchy phrase that Howard Gardner, a professor of psychology at Harvard, devised to describe a broad conception of human gifts which he propounded in a 1983 book, *Frames of Mind*. Gardner had virtually nothing to say in his book about schooling or school reform, but many educators were enthralled by the sense of possibility latent in his theory. They passed the book among themselves like samizdat, and very quickly "MI" schools, exercises, symposia, manuals, and so on sprang to life. Gardner became a guru in spite of himself. There are now hundreds of schools that use MI materials or an MI approach, though a far smaller number use Gardner's paradigm as their core organizing principle.

In *Frames of Mind*, Gardner argues that we have wrongly limited the word "intelligence" to those skills measured by IQ tests, and their ubiqui-

tous surrogates, the SATs. Gardner called these the "logical-mathematical" and the "linguistic" intelligence. These were the skills that French officials asked Alfred Binet to test for at the turn of the century—the skills that made for a good nineteenth-century French civil servant. And yet today we

treat this cultural definition as immutable biological fact. We speak of the IQ skills as "intelligence" and musical or spatial skills as "aptitudes," in a way that implies a hierarchy of gifts. Gardner argues that this habit leads us to place too much value on logic and language, and too little on other intellectual attributes. And he insists that findings from a range of sciences showed the old

narrow conception to be simply wrong.

Gardner proposed that we apply the word "intelligence" to any information-processing trait that satisfies certain scientific criteria—for example, that it "can be found in relative isolation in special populations," that it has a distinct evolutionary history, that it can be shown to operate independently from other intellectual faculties, and so on. Gardner then ran a series of candidate intelligences through this gantlet. He emerged with

The eight intelligences offer "multiple entryways" by which children may approach subject matter.

seven winners: logical-mathematical, linguistic, musical, spatial, interpersonal, intrapersonal, and "bodily-kinesthetic" intelligence. He later added what he calls "the naturalist's intelligence," and he has considered adding "existential intelligence" to the pantheon.

Gardner's theory is premised on a "modular" picture of the brain that is now widely accepted in neuroscience: Mental activities are parceled out into various regions of the brain, and are more autonomous from one another than previously thought. (Memory for faces, for example, is quite separate from memory for names.) At the same time, MI theory has received an extremely mixed reception among Gardner's own peers.

Psychometricians point out that Gardner has not done the testing needed to show that these are, indeed, autonomous faculties, rather than aspects of the traditional intelligences. And most neuroscientists, even those sympathetic to Gardner's model, continue to believe in a central processing capacity, which has traditionally been called "general intelligence," or *g*.

The Problem Is the Pedagogy, not the Child

Nevertheless, educators have been far less skeptical than scientists. MI theory implies a new conception of learning, which Gardner himself has phrased as follows: "The question is not how smart people are but in what way people are smart." If this is so, then the children who are now failing in school are the ones who happen not to be especially good at the linguistic and logical-mathematical skills emphasized by current schooling; we can make all students succeed by adjusting our pedagogy to recognize the multiplicity of their gifts. Some schools have used MI theory to up-end the conventional hierarchy of skills. One MI school has adopted the motto, "Who you are is more important than what you know," and has developed a series of exercises designed to champion interpersonal and

intrapersonal skills. Others have made the classroom into a network of MI sites, with students moving from place to place, reading about, reflecting on, acting, dancing, or singing about each topic. Gardner, who has been openly disturbed by some applications of his theory, has felt compelled to write, "MI theory is in no way an educational prescription. . . . MI theory does not incorporate a 'position' on tracking, gifted education, interdisciplinary curricula, the layout of the school day, the length of the school year, or many other 'hot button' educational issues."

Nevertheless, as the MI movement has gathered momentum, Gardner has increasingly accepted the role of educational theorist and popularizer. His basic principle is that schools must cultivate the whole range of a child's gifts. "An exclusive focus on linguistic and logical skills in formal schooling can short-change individuals with skills in other intelligences," he writes. Every

child should be given the opportunity to discover his or her own genius. Schools should devote as much time and attention to the cultivation of skills in music, art, oral presentation, or movement as they now do to writing papers and solving equations.

At the same time, Gardner has written that he is "a demon for high standards," and a firm believer in the intellectual disciplines. The various intelligences, he points out, offer "multiple entryways" by which children may approach traditional subject matter. "Suppose," he writes, "that a child is learning some mathematical principle but is not skilled in logical-mathematical intelligence." In such a case, he continues, "mathematics, as a medium, has failed. . . . The teacher must attempt to find an alternative route to the mathematical content—a metaphor in another medium. Language is perhaps the most obvious alternative, but spatial modeling or even a bodily-kinesthetic metaphor may prove appropriate in some cases." Gardner also writes that some students might be better able to express their understanding of a historical subject through deliv-

Gardner considers faith in facts and memorization a remnant of an outdated theory of mind.

ering a speech, or acting out a play, or even performing a song or a dance, than through the traditional, linguistic medium of the written paper. While not every subject can or should be approached seven or eight ways, Gardner writes, teachers ought to be prepared to try more than one. Indeed, he has written that the mark of true understanding is the ability to make "multiple representations" of a single topic—to be able, for example, to explain the theory of evolution in prose as well as to draw an evolutionary tree.

An "Understanding Pathway"

Gardner has now become a prominent spokesman for progressive education generally. He has urged an end to the hegemony of the standardized test, writing that the kind of "performance assessment" favored by progressives allows the child to show mastery in diverse forms, rather than only in the traditional paper-and-pencil format that favors the logical and linguistic intelligences. He favors a highly individualized, "child-centered" pedagogy. Gardner has also been a relentless critic of what he considers a widespread obsession with "coverage": In his most recent book, *The Disciplined Mind*, he argues instead for "an understanding pathway" which would lead a child along a spiral of understanding of a limited number of profound topics. For Gardner, the traditionalist belief in the virtue of mastering facts, names, and dates is a remnant of an outmoded theory of mind.

Gardner is, at bottom, a moral philosopher; he wants to change the way we measure human worth. He believes that it is not only a scientific error but a spiritual failing that has led us to put logical and linguistic intelligence on a pedestal. We are, he believes, moving into a world where a different, and broader, set of human attributes will be prized. This may well be so, though it's quite separate from the question of whether it would be good for the schools to act as if it were so. There aren't that

many schools around that suffer from an excessive preoccupation with logic and language.

Governor Bent Elementary School, Albuquerque, New Mexico

Marilyn Davenport, the principal of the Governor Bent elementary school, in Albuquerque, New Mexico, is sympathetic to the view that who you are matters more than what you know; she says that, "The key intelligences are intrapersonal, because that involves understanding yourself and the way you learn and your belief in yourself as a learner; and interpersonal, which determines your ability to get along with others." On the other hand, she expects her students to know a lot. Davenport says that, when Howard Gardner came to visit, he had grown so disgusted with watching children crawl around on the floor and hearing that they were performing "bodily-kinesthetic" exercises, that he was prepared to sever himself from the

movement that he had spawned; Governor Bent restored his faith that a multiple intelligences focus could be used in the service of curricular learning.

Gardner's belief that every child has a distinct profile of intelligences serves as the premise for much of the teaching at Governor Bent. Marleyne Chula is an "enrichment" teacher who works with children who have been diagnosed as gifted, but nevertheless suffer from information-processing impairments that make it difficult for them to read or write well—itself a kind of multiple intelligences diagnosis. She gives her fifth-graders extremely complex architectural assignments which draw on spatial rather than linguistic skills. The children had to build a robot at least forty inches high, with one limb that rotated through 360 degrees; an ant colony that could withstand flood, hurricane and enemy attack; and a Mouse House with a site plan and proper draftsmanship. Paul, a boy who had left a previous school because of

A first-grade class is a richly cluttered shrine to painting and sculpture.

behavior problems, had constructed an elaborate Mouse House with a causeway linking two structures, a fishpond and a miniature tackle box with worms. Chula says, "There's that whole population of students who are not sequential, who are not analytical. They're visual, spatial, they're simultaneous thinkers rather than sequential. If I was offering these kids another kind of curriculum, you would not see them engaged like this."

Bringing the Intelligences into Play

Teachers also try to devise assignments that will bring as many of the intelligences as possible into play. Carolyn Chadwell, a fourth-grade teacher who has seven photographs posted on the back wall of her classroom showing children engaged in the various intelligences, explains that the research project she assigns, in which children study a subject of their choosing and write a report on posterboard, is "a multiple-intelligence exercise." The report itself, with prose and drawings, uses linguistic, logical and spatial intelligence, she says. "And it's bodily-kinesthetic, simply because they're on the ground. It's intrapersonal, because they do the work individually, and then they present it, so it's interpersonal. And sometimes we play music when they're presenting." Chadwell runs an extremely tactile classroom. The children write "texture" books, in which they incorporate objects with writing, and they have dissected such ambitious articles as a sheep's brain and an entire shark. The shark's jaw sat on a table in the class, and children were able to provide lengthy explanations of the functions of the various teeth.

At the same time, it wouldn't be wholly accurate to describe Governor Bent as an "MI school," certainly not in the sense that some places are "Comer schools" or "Core Knowledge" schools. MI is a state of mind, or a paradigm, rather than a pedagogy; at Governor Bent, as at any number of schools, the multiple intelligence paradigm is one

of several sources of inspiration, rather than an organizational tool. Some teachers post Art Costa's "12 Intelligent Behaviors," rather than Gardner's seven or eight intelligences. Moreover, it's not always easy to separate what Gardner caused from what he merely legitimized. Many teachers will say that Gardner's work provided them a vocabulary, and a theory to explain what they already felt to be true. Marleyne Chula says, "Multiple intelligences is intuitive to me. I was doing it before I ever read *Frames of Mind*."

**The children sing,
dance, and design;
they also recite infor-
mation on command.**

Both Art History and Art

Nan Hamner, a first- and second-grade teacher, is one of the devotees of the 12 Intelligent Behaviors, but her classroom is a virtual shrine dedicated to the plastic arts. She had taught the children about art history, and each of them had made a diorama of their favorite painter. Nolan, a second-grader, had made a pipecleaner statue of Jackson Pollack bent over a paint-splattered canvas on the floor. There were canvases stacked against a wall, paint cans sloping over with paint, a ladder leading to a balcony. "I like what he paints," Nolan said, "and I like the way he painted on the floor." Others had done Picasso, Botticelli, Diego Rivera; the Michelangelo diorama bore the label "Capella Sistina," and included a rendition of the Sistine Chapel ceiling. There were art books everywhere, and posters and caricatures of artists, and the names of artists in great block letters. The room was densely plastered with stuff of every kind, including spangled and embroidered shoe sculptures that Hamner had her students make. She showed the children photos of paintings to put them through their paces. "That's by Henri Matisse, and he was king of the Fauvists, and when he was old he started doing collage," said one little boy. She talked about chiaroscuro in Rembrandt, and asked for the names of painters who had used a similar technique. "De La Tour!" cried a child. This old-fashioned enthusiasm for recall and recitation hardly squares with Gardner's pedagogy of understanding; and yet perhaps it

proves that the progressive and the traditional doctrines are not quite so irreconcilable as they seem. At Governor Bent, the children sing across the curriculum, the boys dance without embarrassment, and PE has given way to KE, for "kinesthetic education." But they also produce information on command. Jay Hamner—Nan's husband—asked his fifth-graders, "Who's your favorite composer?"

"Chopin."

"Mozart."

"What's your favorite piece?"

"Eine Kleine Nachtmusik."

"Hum a few bars." The child did. Then he asked for favorite inventors, and he got Igor Sikorsky. Facts about Presidents? "John Tyler had the most children—fifteen." "William Howard Taft got stuck in a bathtub." It was Howard Gardner's worst nightmare—"decontextualized facts." Yet it was also a Gardner moment. This was a time set aside for

"flow"—for attaining the state of unselfconscious absorption which psychologist Mihaly Csikszentmihalyi, a long-time colleague of Gardner's, has singled out as a fundamental, and teachable, aspect of creativity. The children were playing chess, or talking about writing assignments with one another, or playing video games, or practicing a song the class had just learned. Mr. Hamner led them in a few tunes for my benefit. Then he asked Paul, the Mouse House architect with the record of low-grade interpersonal skills, to sing "Yankee Doodle Dandy." Paul addressed the class in his reedy contralto. And then this shy little boy turned into an all-American ham: He flung out his arms, and then he smote his chest, and finally he sank down on one knee and fixed an ardent gaze on the girl playing his Yankee Doodle sweetheart. And then she helped him to his feet, and gave him a little peck on the cheek.

Effectiveness and Cost

Not available

Current Status

Not available

For more information about Multiple Intelligences, contact:

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School Development Program



Psychologist James Comer has written that cognitive development "will not be possible for many students until the social, psychological and moral growth, interpersonal skill development and social conditions are adequately addressed." The School Development Program, which he established, is designed to create the conditions which make learning possible even in devastated areas. Teams meet regularly to discuss children's developmental needs, or to thrash out school policy. All interactions are carried out in a spirit of "consensus, collaboration and no-fault."

Creating an Environment That Will Prepare Children to Learn

Progressives and traditionalists disagree both on the nature of the material that a child ought to learn and the means by which he should be taught; both, however, take it for granted that the battle for reform will be waged in the classroom. They are, in effect, fighting over the laws of cognitive development. Of course, if cognitive development is in fact a dependent variable of something else, then they've all pitched their tents on the wrong battlefield. And this is precisely what James P. Comer, a professor of Psychology at Yale and the founder of the School Development Program, has been arguing for the last thirty years. In *School Power*, an account of his own reform efforts, Comer writes that intellectual development "will not be possible for many students until the social, psychological and moral growth, interpersonal skill development and social climate conditions are adequately addressed." He adds, "I am not suggesting that academic skill development is unimportant. I am suggesting that moral, social and psychological development of the young should receive equal emphasis

or greater emphasis for now, if that is the front-end cost of returning attention to academics in the near future and long term."

Comer starts from the assumption that children will not learn unless they are ready to learn; and he contends that many children, and especially children from poor neighborhoods and broken homes, have been set up for failure by the time they reach

School must overcome the child's—and often the parent's—resistance, doubt, or disability.

school. Thus, he writes, "Many children have learned to fight because they have not been taught to negotiate for what they want. . . . Teachers too often punish them and hold low expectations for them rather than help them grow along developmental pathways where most mainstream parents have led their children before school."

Comer argues that the actual solution to these deep-rooted problems lies in community and economic development and political change; he has even written a book with the subtitle, *Why Schools Can't Solve Our Problems—And How We Can*. Nevertheless, he also believes that the school is the one institution that can make a conscious effort to reshape the child's developmental trajectory. And so he has contended that we need new schools, and even new regimens of teacher training, that are concerned less with "content" and more with "development."

A Consumer's Guide to Schoolwide Reform • 61

Involving the Parents, Nurturing the Children

Comer's School Development Program is a system of governance, as well as a set of attitudes, designed to foster development in the face of the child's—and often the parent's—resistance, doubt, or disability. Comer and his colleagues first tried out the model in the late Sixties in two thoroughly chaotic, high-poverty schools in New Haven. Many of the seven hundred or so schools that have installed the model since then are located in inner-city neighborhoods rife with the kind of developmental problems Comer describes; in recent years, however, schools in more middle-class areas have also begun to adopt the design.

The Comer school—that's what they're almost always called—is organized around three teams. The Parent Team gives parents a means to be involved with the school, and coordinates their volunteer activities in the school. The Student Staff and Support Team, which consists of the school psychologist, counselors, special ed teachers and others, deals with issues of schoolwide climate as well as the problems of individual students. The SSST is the institutional expression of Comer's "development-centered" model; its job, Comer writes, "is to help the parents and staff understand that children are not just good or bad, smart or dumb, as their behavior might suggest. All are born underdeveloped." The school's chief governing body is called the School Planning and Management Team, and consists of parents, teachers, administrators, and support staff. The SPMT makes the fundamental decisions that guide the school, and devises a Comprehensive School Plan that includes curriculum and pedagogy.

All of these bodies have familiar analogues in conventional schools—the PTA, the school-based management team, the staff workers often required by state law to monitor assignment to special ed and other programs. But several elements distinguish the Comer process. For one thing, parents

play a central role in the school. Comer sees the child as embedded, for better and for worse, in the community, and he believes that the school must engage parents not so much for its own benefit as for that of the parent and the child. In *Rallying The Whole Village*, Comer and several colleagues write that parental involvement "reduces the dissonance that disadvantaged students experience as they attempt to adjust from one environment to the other. . . . Empowerment can also serve to strengthen families and help them become resilient supporters of their children's development." Comer schools are intentionally porous towards the surrounding community: Parents and local organizations are welcomed to the

school, and the children frequently go out into the larger world.

A Model of Respectful Conversation

The other distinctive element is atmospheric: Comer stresses that all discussions among the teams, and indeed all interactions in the school, must be governed by the principles of consensus, collaboration, and no-fault. As with parental involvement, efficiency is not necessarily the goal. The virtue of providing a model of respectful conversation to children who are accustomed to flat edicts, or invective, trumps the virtue of crisp decision-making.

Perhaps it's only natural that a child psychologist views education reform as a matter of child psychology. Comer writes that child development "should be to education what the basic sciences of anatomy, biology, chemistry and physiology are to clinical medicine." But Comer means "child development" in a very specific sense: Not the developmental psychology of Piaget, which specifies when children are ready to absorb various concepts, but development along a series of "pathways," among which Comer includes social, psychological, physical, linguistic, ethical, and cognitive. Healthy development, for Comer, means achieving a balance

Parental involvement reduces the dissonance that disadvantaged students experience in school.

among the pathways.

The entire realm of the cognitive, for Comer, is only one among six; and since children are not ready to learn until their other developmental needs have been met, the cognitive occupies a junior and dependent position. The Comer school is organized around a certain idea of human relationships rather than an intellectual program, and Comer himself is agnostic about the issues that other reformers are slashing each other to bits over. His comments on curriculum and pedagogy are scanty, and generally non-committal. He is a strong believer in arts education, and he worries that athletics are being short-shrived in many schools. His tone sometimes implies a preference for old-fashioned rigor, but he is currently working with Howard Gardner and Ted Sizer on the so-called Atlas school design. His bedrock belief, or perhaps assumption, is that a humane and democratic school will choose whichever educational practices are appropriate.

Parents are everywhere at Barnaby; the office is called the "Parent Resource Center."

Barnaby Manor Elementary School, Prince George's County, Maryland

At the Barnaby Manor elementary school, in Prince George's County, Maryland, everybody hugs everybody else—teachers hug children, parents hug teachers, administrators hug parents. It would be hard for any of the school's various constituencies to feel that the others didn't have their welfare at heart. A big banner has been plastered near the front door: "A Kind, Caring Comer Community." Indeed, earnest exhortations are everywhere in the school: "You Can When You Believe You Can," "Can't Is Not Spoken Here." All this demonstrativeness and sincerity and enthusiasm and reassurance make Barnaby, which is 99 percent black, feel very much like the neighborhood church. The school's office, which is situated directly across from the front door, bears a sign that says, "Parent Resource Center." There are always parents—which is to say, mothers—in the office work-

ing as volunteers, and in the morning, at drop-off time, there are more parents in the lobby outside, chatting and looking for an excuse to hang around.

One of them, Anita Jones, the mother of a fourth-grader, said that she had initially sent her daughter to a Catholic school across the border in Washington. "That school never knew who my daughter was," Jones said. "I mean, they sent home a report card four times a year, but I never felt they understood her strengths and weaknesses. Then I came here just to visit, and I could immediately see it was a different kind of atmosphere. The teachers talk to you; they get to know your child." At

Barnaby, an assembly is convened at each report card period; the honor roll is read out, and parents are encouraged to stand up and deliver a testimonial on behalf of their child. Jones takes it a step further: She holds a party for her daughter after the assembly. She also volunteers in the office and the cafeteria, and is a member of the School Planning and Management Team.

Barnaby Manor has been a Comer school since 1985, when a court order required the state to provide additional funding to high-poverty schools in Prince George's County, and also invited the School Development Program in to reform those schools. There are now 102 Comer schools in the district; Barnaby Manor, where 68 percent of the children qualify for Title I assistance, is one of the poorest. (Prince George's County is the largest black middle-class enclave in the country.) Nevertheless, in 1996-97, Barnaby registered the largest year-to-year gains in the county on the statewide exam known as MSPAP (though the following year, after a good deal of staff turnover, its performance was flat).

Parents Prefer Tradition

Barnaby is, like the black church, a fundamentally conservative institution; the parents wouldn't have it any other way. In 1998, the Parent Team decided that the children should wear uniforms.

The county school board requires that three-quarters of both parents and teachers vote in favor of such a policy; 80 percent of parents voted for a prim outfit consisting of navy pants, a navy cardigan, a white shirt, and a tie. And the same principle applies to classroom matters; the parents want their children to master spelling, handwriting, and the times tables. Linda Lett, the facilitator for the School Development Program, says, "We have to explain to parents that it's not the industrial era any more. We have new forms of learning, like cooperative learning, and you're expected to use it on the MSPAPs"—the statewide exam.

Towards mid-day, a booming voice begins to issue from the Barnaby Manor cafeteria. "That table is starting with nine points today!" "We're taking another point from everybody; that means no ice cream this week." The children are expected to eat quietly and clean up their table, and they receive points for their lunchroom deportment. Enough good behavior over the course of the week earns them ice cream on Friday. One pair of loose lips, on the other hand, can sink everyone at the table. This system of incentives makes for an almost disconcertingly quiet lunchroom. In general, despite being terribly overcrowded, Barnaby Manor is a calm, orderly place. Children in Diane LaPenna's kindergarten class kneel in two perfect rows, like the little girls in the Madeline stories. You can see the school's distinctive process at work in the biweekly meeting of the Student, Staff and Support Team, which Comer initially christened the Mental Health Team. (He later concluded that the connotation was too pejorative.) The group met all day, considering several dozen children with special problems. There was Mitchell Jackson, a fifth-grader with an I.Q. of 71 and a mental age of five according to one language test. (I have changed the child's name.) The school psychiatrist suggested to Mitchell's mother that she set brief activities for Mitchell to perform, and asked her to take him to a

**The process stops
at the classroom
door; the curriculum
is determined
by state guidelines.**

doctor to check for attention-deficit disorder. A coordinated plan was drawn up involving special help with language and the possible medical diagnosis. Mrs. Jackson was doing her best to maintain a stoic front, but not quite succeeding. The principal, Laura Barbee, said, "We're all coming together to do what's right for Mitchell, and we know that you are a very diligent person who will do everything that you can for your son. You know that Mitchell is a part of us, and we want to do whatever we can to help him." By the end, Mrs. Jackson was sobbing. Barbee hugged her, and then hugged a child who came into the room.

After Mrs. Jackson left, the principal told the others that there had been a rash of recent ADD diagnoses. Mrs. Jackson, she said, "wasn't so much upset about the findings, but it was just hearing it again that was so upsetting, and that's why we need support for our parents." The group talked about adopting the schoolwide "behavior management" program used in another school, or possibly bringing in the system's expert on ADD. "This is something we have to talk about in our staff meetings and of course the SPMT," she said.

A Culture of Hugs

One of the peculiarities of the Comer process is that there is no forum devoted to issues of curriculum or pedagogy. While the SSST focuses on developmental concerns, SPMT meetings are taken up with arranging fund-raising events, special gatherings and voluntary and community activities, and debating issues like school uniforms. The classroom is largely left up to individual teachers. The curriculum is determined by the state "scope and sequence" and, in the grades in which the state test is administered, by the MSPAP. There are lists of "MSPAP Vocabulary Words," and MSPAP workbooks. This division of labor inside the school is so thoroughly taken for granted that the idea that the Comer process might alter the content or process of learning is treated as slightly odd. Teachers rely on

the Comer process to create a healthy environment for learning, and then do what they believe in, and what the state dictates. "The Comer process brings back the small-town atmosphere of the school," says Barbara Stanfield, a fourth-grade teacher. "It's just old-fashioned manners and treating people the way they should be treated." At such moments, the large structure that Comer has developed seems to evanesce into a culture of hugs.

And yet Barnaby Manor does have a distinctive culture, and it is widely accepted inside the school

that the Comer process is responsible for that culture. The teachers, and many of the parents, have attended Comer training sessions, workshops, and retreats. The principal is herself a former Comer facilitator, and Linda Lett, the school's current facilitator, is a ubiquitous presence. There is a paradox at the bottom of all this: The School Development Program is a scheme of reform which alters, and perhaps even transforms, the conditions of schooling while it barely touches schooling itself.

Effectiveness and Cost

Evidence of positive effects on student achievement:

Promising: At least 3 studies use a rigorous methodology and show positive effects.

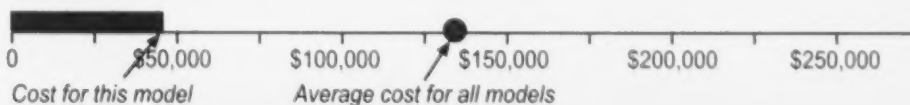


School support provided by developer:

Promising: Some on-site technical assistance and a variety of types of support.



Installation cost (1st year)



Current Status

Year introduced in schools	1968
Number of schools (1999-2000)	721
Grade levels	K-12

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Success For All



Success For All is crisis-intervention—a program originally designed to prevent inner-city children in the early grades from falling behind in reading, as well as math. Robert Slavin, the social scientist who devised the model, insists that even the most disadvantaged children can master basic skills if they are taught with sufficient clarity and relentlessness. Children recite their lessons together; every day's "objectives" are clearly posted. Success For All has expanded into Roots and Wings, which includes curricula in the other major subjects.

A Single-minded Focus on Basic Skills

One of the ways in which one can classify school-reform proposals is by the problem that the reformer proposes to solve. At one end of this spectrum lie the designs whose authors worry about the spiritual and intellectual shallowness of perfectly literate middle-class children. At the other end lies the emergency medical squad, who want to ensure survival before they concern themselves with well-being. It is here that one finds Robert Slavin, creator of the Success For All reading program, which over time has metamorphosed into the more expansive Roots and Wings school design, one of the New American Schools designs. Over 1500 schools now use Success For All, and about 200 of those schools have adopted Roots and Wings.

"What does it mean to succeed in the early grades?" Slavin asks in his book, *Every Child, Every School*. "The elementary school's definition of success, and therefore the parents' and children's definition as well, is overwhelmingly success in reading." Children who read well move on in school. On the other hand, he writes, "Remediating learning deficits after they are already well estab-

Remediating learning deficits after they are well established is extremely difficult.

lished is extremely difficult. Children who have already failed to learn to read, for example, are now anxious about reading, and doubt their ability to learn it." And this crisis, of course, plays itself out in demographic terms. Slavin notes that a 1989-90 study found that, while 66 percent of nine-year-old white children could read at the "basic" level, the figure for blacks was 34 percent, and for Hispanics, 41 percent.

Success For All is a K-6 pedagogy which states its premise in its name: All children, at least all children without organic defects, can become competent readers. Slavin is a social scientist who studied the effectiveness of classroom practices before he was challenged by Baltimore public school officials to devise strategies that would work with even the most disadvantaged children.

Accordingly, Success For All is not a theory but a compendium of strategies that have been proved to be effective in the teaching of reading.

The quarrel between proponents of whole language and phonics seems rather two-dimensional compared to Slavin's description of effective reading pedagogy. Slavin describes reading as "a complex process that involves decoding of words, tracking of words across the page, and constructing

meaning from individual words as well as sentences and paragraphs." The reading assessment test that is administered to students in Success For All schools measures nineteen areas of performance, including "Active Listening," "Fluency and Self-Monitoring," and "Story Comprehension." Slavin emphasizes the need to teach all of these skills together, to focus on them "relentlessly," and to do so starting from kindergarten or even earlier. It is this built-in single-mindedness which lends to Success For All its air of crisis intervention.

Constant Assessment and Regrouping

The core of the Success For All program, whether in kindergarten or sixth grade, is a ninety-minute daily reading session. Depending on the grade, the period includes reading by the teacher to the students, choral reading, phonics and word-attack strategies, vocabulary lessons, writing, and discussion and analysis. Each session is minutely choreographed; at any given minute, you should be able to hear virtually the same thing in every first-grade class, both from the teachers and the students. The classes are homogeneously grouped, so that first and second or even third-graders at the same reading level will be placed together; this allows the teacher to work with the whole group simultaneously. An assessment conducted every eight weeks allows students to be regrouped as they progress, and gives teachers a detailed picture of their needs. Children who lag behind the group, especially in the early grades, are given twenty-minute sessions of one-on-one tutoring (though never during reading or math class). Success For All is catholic in its pedagogies. Though the emphasis on direct instruction and scripted performance might strike progressives as appallingly mechanical, Slavin is also a strong believer in cooperative learning, and students do much of their work with partners or in teams.

The other components of the Roots and Wings design are a math program, known as MathWings,

and a combined science and social studies curriculum called Worldlab. The math curriculum emphasizes mastery of mathematical reasoning and the use of "real-world" or "authentic" problems. Slavin writes that MathWings "also makes connections to literature, science, art and other subjects, as well as

the students' world and personal experiences to provide this real-world problem-solving context." Still, the sixty-minute math lessons are also highly prescribed, and involve detailed and ambitious expectations.

The further Slavin moves from the epicenter of the crisis—reading—the more progressive his pedagogy becomes. The WorldLab curriculum is divided into twelve-week thematic units in which students learn through

simulation and role-playing; the design is premised on the belief that students are reluctant to learn material that "is not immediately useful to them." Thus, for example, in a unit called BayLab, students study a local waterway, taking on roles as farmer, builder, fisherman, government official, and so on. "To participate intelligently in debates," Slavin writes, a student "has to have a deep understanding of watersheds, erosion, eutrophication, photosynthesis, the needs of sea-life for oxygen, tides, economics and the economic impact of pollution on the bay, government, laws and many other topics." It's not clear why Slavin believes that the same child who gained competency in reading only through almost heroic acts of attention and care will attain this extraordinary range of knowledge simply by virtue of his or her eagerness to join the game; WorldLab does not seem to have the same basis in research findings that the reading program has.

P.S. 159, Brooklyn, New York

The children in Alicia Vincent's kindergarten class at P.S. 159 in Brooklyn are reading *Sig The Pig*. The word "reading" is only partly a misnomer. Reading in Success forAll schools normally starts in the second half of kindergarten with "shared sto-

The core of
the program
is a minutely
choreographed
ninety-minute
reading session.

ries" in which the teacher reads material in small type, and the children read phonetically controlled passages in large type, so that the children can use basic decoding skills to experience the pleasure of real narrative. Over time, this "scaffolding" falls away, and the children are expected to read all of the text. Vincent reads with a great show of feeling, then says, "Touch. . . point. . . read," and the children, moving their finger in their own books, recite, "The. . . pig. . . is. . . sick." They work their way through the whole book, and as a reward when they're done, Vincent leads them in a rendition of "A, Alligators all around," from Sendak's *Really Rosie*. Even the fun parts are meant to reinforce language use.

Across the room, a full-time paraprofessional is leading the children through an oral language exercise. She shows them a picture on a card, and asks, "What do you see?"

"I see a star."

"What does 'star' start with?"

"Ssss."

"How many colors do you see?"

"Orange, ye"—

"Say, 'I see. . .'"

"I see orange. . ."

The classroom, like all classrooms at P.S. 159, is a "print-rich environment." Each kindergarten room has a series of spaces set aside, known as the Language Center, the Library Center, the Housekeeping Center and so on, and each comes equipped with paper, crayons, pencils, and books. The Success for All classroom is even more densely festooned than most schoolrooms: Vincent's room has on its walls the months, the letters of the alphabet, the days of the week, colors, shapes, and the numbers 1 through 20. Clotheslines strung across the room have examples of the children's "emergent writing," which range from drawings and scrawls to such semi-decipherable messages as "My Aly Nam is Pok." ("My alien's name is 'Poke.'")

**First-graders
are expected to
explain the charac-
ters, the problem,
and the "solution"
of a story.**

A Purposeful Kindergarten

There was a degree of academic purposefulness in Vincent's classroom that is extremely unusual in American kindergartens. The "learning objectives" for the day were posted on the blackboard—not to instruct the children, of course, but to keep the teachers themselves lashed to the mast. Among that morning's objectives was "How to think about pre-viewing." And when the children started on a new book, Vincent asked the children to try to figure out the story just by looking at the pictures. "Do you see how important pictures are?" she asked. "Do you see?" (In this environment, both children and teachers seem to unconsciously adopt the language of the primer.)

P.S. 159 is the perfect laboratory for crisis-intervention reform. The school is located in East New York, one of the city's most blighted areas; its most illustrious recent graduate is a famous mass murderer known as the Zodiac Killer. Ninety percent of the children are eligible for Title I funding; many have parents who are unemployed, absent, abusive, or addicted to drugs. The trajectory in this world is towards failure, and school is just about the only institution with the power to change it. P.S. 159's principal, Kathy Garibaldi, says that she initially opposed the Success For All program, but relented because she knew the school was failing, and, as she says, "I didn't have anything else." At the time, 39 percent of the school's students were reading on grade level; earlier this year, the fourth year of SFA, the figure suddenly jumped to 47 percent. The principal is now a convert. "There's nothing new in this program," she says. "What they've done is taken pieces from every good reading program for the last twenty years and put it in a package so the teachers can teach, and the kids can learn."

At P.S. 159, almost all first-graders, and a few second-graders, are grouped in a "Roots" class, with the opposite ratio in a more advanced "Wings" class. The first-grade Roots class is the

heart of the SFA design; these children are expected to gain proficiency in decoding skills by the end of the year. Carolyn Skolnick's class was reading a "shared book" about skating. A posterboard mounted on a stand next to the teacher listed the book's author, title and illustrator, as well as the setting, the characters, the "problem," and the "solution." The children were expected to be conversant with all of these terms. Skolnick read, "Dad came to the top of the steps." The children repeated the line. They read several pages in this fashion.

Chanting and Clapping

"Put your books down," said Skolnick. She picked up a card with a big black J. "The sound of J is juh, juh, juh," she said, and the class chanted the line back. "To make a J we slant down, loop up. . . ." The children repeated the line, drawing the J in the air. And then she brought out a V, and a Y, and they performed the exercises again. Then the class shifted to vocabulary words designed to reinforce one particular sound—"dived," "beside," "ride," "time." Skolnick pointed, the children recited. The children spelled "open," with a clap between each letter. The class had been split in two—there were too many children for one group—and a minute later the claps were echoing from the opposite corner of the room. It could have been distracting, but the children didn't so much as turn their heads.

The class returned to the letters. Here was a picture of a valentine; the children pointed to the V. Then it was back to "the word wall" to reinforce the vocabulary words. Then the children separated into partners, and each one read the skating story to the other, the listener helping the reader over rough patches. Virtually all of the children could read the story. Skolnick handed out clipboards, and the children wrote down the characters, the setting, the problem, and the solution of the story. Almost all of them were at least minimally competent at this level, too. They talked about the characters in the

story in a rudimentary way.

Success For All almost inevitably produces the feeling, "It's ugly, but it works." Virtually everything is scripted—not just the back-and-forth, and the lickety-split pace, but even the words on the easel, the children's work hanging from the clotheslines, the word-attack strategies posted on the walls. Success For All even dictates the specific configuration of the print-rich environment. It is about as close as one can get to a "teacher-proof"

system, at least in the early grades. And the chanting! "I still cringe when I hear choral answers, though I know the research shows that it works," says Kathy Garibaldi.

Overcoming Teacher Skepticism

Some of the upper-grade teachers had initially opposed the adoption of Success For All, but, like the principal, have now become believers.

"You hear kids reading out loud," said Nancy Miloscia, a fourth-grade teacher. "Before, they literally couldn't have done that." First- and second-graders, she says, are now grasping abstractions like "the main idea" that would have flummoxed them before. The teachers have even embraced the call-and-response format. "It's important to make the kids say the words out loud," says another fourth-grade teacher, Crystal Hyman. "Kids this age often leave off the endings of words; and then you see that showing up in their writing. This way you can make sure they get it right." The teachers also say that the pedagogy allows more latitude than appears to be the case, though it's hard to see how this can be true in the early grades.

The school is now trying to focus on stimulating "higher-order thinking," and many of the teachers have received instruction from Success For All staff on raising the level of classroom discussion. In Hyman's own class, in fact, the script faded into the background as mechanical skills gave way to interpretive ones. The fourth-graders began the ninety-minute period sitting on the floor listening to the teacher read a story. She asked about the

**Virtually
everything is
scripted—even the
placement of posters
in the room.**

main character, an Indian named Iktomi.

"He's acting selfish," said a boy.

"Selfish? How? Give me some evidence." The boy complied. Hyman asked who the antagonist of the story was, and again demanded evidence.

"Nature," said another child. The hot sun was punishing Iktomi. Another kid said that Iktomi himself was both the protagonist and antagonist of the story. Hyman asked them to work with a partner to predict one particular aspect of the story—a favorite Success For All strategy designed to stimulate powers of inference. They answered, and she asked if anyone had a contradictory prediction. Many of the children were raising their hands. And when, after about half an hour, Hyman said, "To be continued," the class let out a collective groan.

The students returned to their seats for a vocabulary lesson, with words taken from the next story that they were to read. Hyman wrote the words on the blackboard, pronounced each one of them, and then the children recited the words back in unison as she indicated them with a pointer. One of the students noted that she had misread a word. "Thank you—active listening," said Hyman. "Go up ten

points." The students in the upper grades are organized into teams of four or five, and the teams earn points by giving correct answers, with the weekly winner usually earning lunch with the teacher. This extremely behavioral approach to learning is one aspect of Success For All that does trouble some teachers. "I have a problem with the scoresheets," says Jennifer Pierno, another fourth-grade teacher. "I don't see why they should need that incentive." The carrot approach seems to contrast oddly with Slavin's belief that children will learn whatever is relevant to their own experience. However, the assumption underlying both is that the pleasure of knowing is not, itself, a sufficient incentive.

There may well be an internal contradiction or two in the Roots and Wings design. At the same time, this is not a model that strives for conceptual purity. It is, at least in the case of the reading program, governed by a pragmatic sense of what works. (WorldLab, the science and social studies curriculum, has a slightly more *a priori* feeling to it.) What works is not always what one wishes would work; but perhaps education needs more social science and less moral philosophy.

Effectiveness and Cost

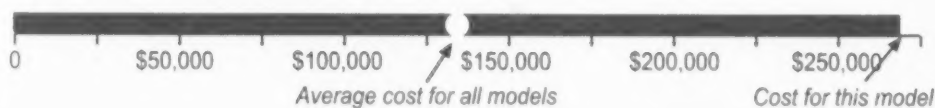
Evidence of positive effects on student achievement:

Strong: At least 4 studies use a rigorous methodology and show positive effects.

School support provided by developer:

Strong: Schools receive frequent on-site technical assistance and a variety of types of support for the full implementation period.

Installation cost (1st year)



Current Status

Year introduced in schools	1987
Number of schools (1999-2000)	1,500
Grade levels	PreK-6

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